California Department of Fish and Wildlife Office of Spill Prevention and Response

Pipeline P00547 Incident After Action Report

Incident Start: October 2021 Response Conclusion: February 2022



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List of Acronyms

AAR: After Action Report ACP: Area Continency Plan ALOFR: Assistant Liaison Officer **AREP: Agency Representative ART: Applied Response Technology BMB: Business Management Branch** Cal OES: California Office of Emergency Services CDFW: California Department of Fish and Wildlife CDPH: California Department of Public Health **CERT: Community Emergency Response Team** CMT: Cultural Monitoring Team COFR: Certificate of Financial Responsibility **DOCL: Documentation Unit Leader DOCS: Documentation Unit DUP:** Dispersant Use Plan **ERMA: Emergency Response Management Application** EU: Environmental Unit **EUL: Environmental Unity Leader** FAQ: Frequently Asked Questions FOSC: Federal On-Scene Coordinator **GIS:** Geographic Information System **HPS: Historic Properties Specialist ICP: Incident Command Post ICS: Incident Command System IEc: Industrial Economics** ITL: Incident Tribal Liaison JIC: Joint Information Center LGOSC: Local Government On-Scene Coordinator LOFR: Liaison Officer LOGS: Logistics Section LSC: Logistics Section Chief MARINe: Multi-Agency Rocky Intertidal Network MSRC: Marine Spill Response Corporation NGO: Non-Governmental Organization NOAA: National Oceanic and Atmospheric Administration NRDA: Natural Resource Damage Assessment **NRV: Natural Resource Volunteers OEHHA: Office of Environmental Health Hazard Assessment OES: Office of Emergency Services OSCA: Oil Spill Cleanup Agent**

OSPR: Office of Spill Prevention and ResponseOWCN: Oiled Wildlife Care Network OWRMD: Oiled Wildlife Rehabilitation Medical Database PCL: Petroleum Chemistry Laboratory PHAU: Public Health Assessment Unit PIO: Public Information Officer **RP:** Responsible Party **RRT: Regional Response Team RTE: Response Technology Evaluation** SC: Sample Coordinator SCAT: Shoreline Cleanup Assessment Technique SOFR: Safety Officer SOSC: State On-Scene Coordinator **THSP: Technical Specialist** TWG: Technical Working Group UC: Unified Command USCG: United States Coast Guard US EPA: United States Environmental Protection Agency USFWS: United States Fish and Wildlife Service VC: Volunteer Coordinator VU: Volunteer Unit VUL: Volunteer Unit Leader **VUP: Volunteer Use Plan**

Executive Summary

Scope, Purpose, and Report Outline

The purpose of this report is to summarize the California Department of Fish and Wildlife (CDFW) Office of Spill Prevention and Response's (OSPR) efforts for the Pipeline P00547 Incident, as well as document successes, best practices, and recommendations for improvement. The information and recommendations provided in this report are based on OSPR's internal evaluation of performance in those response functions for which OSPR had responsibility. OSPR serves as the lead state agency for oil spills in state waters and is the designated State On-Scene Coordinator (SOSC) that manages the response with the Federal government (US Coast Guard (USCG) for marine spills or US Environmental Protection Agency (US EPA) for inland spills), the Responsible Party (RP), and local jurisdictions (when appropriate). This report presents OSPR's perspective of the P00547 Incident response and is not considered a product of the incident's Unified Command (UC).

While the response officially concluded on February 2, 2022, OSPR and our partner response agencies remain engaged in Natural Resources Damage Assessment (NRDA), civil and criminal investigation, and legal efforts related to the incident. As such, this report covers initial efforts of NRDA and legal but does not cover any civil or criminal investigations which are outside the scope of responding to an incident. It is important to note that this report captures the most significant response actions, successes, best practices, challenges, and recommendations and is not meant to be fully comprehensive of the entire response or lessons learned.

The facts, information, and recommendations contained in this report are based upon information which is presently available through the response effort. Additional facts may be discovered which could otherwise modify content or recommendations contained in this report. Thus, OSPR may adjust recommendations and future actions as appropriate if additional information becomes available after publication.

This After Action Report (AAR) is composed of two major sections. The Executive Summary outlines the scope of the report, provides a summary of the incident and OSPR response actions, discusses how the COVID-19 Pandemic affected the response, and highlights successes, best practices, and recommendations.

The remainder of the report is organized into sections corresponding to the Incident Command System (ICS) units or response functions that OSPR led or participated in during the response. Each section includes the following subsections:

- Objectives and Responsibilities
- Incident Activities
- Recommendations from the Refugio Oil Spill Addressed in this Response
- Successes and Best Practices
- Challenges and Recommendations

The report also includes an Appendix for maps referenced throughout the report.

Incident Summary

Note: The incident cause and timeline remain critical components of the investigation. Information in this report is preliminary and not comprehensive.

In the late evening of October 1, 2021, OSPR received notification that a vessel reported an oil sheen offshore of Huntington Beach (Cal OES #21-5440, NRC #1318437) but was unable to confirm the report due to lack of visibility at night. [Note: In recognition of the need for improved capabilities for timely oil detection at night and under low visibility conditions, OSPR hosted a special workshop in April of 2022 with the objective of evaluating improvements to sensor systems and identifying promising tools for further development and application in spill settings.] Multiple reports were received in the very early morning (2-3:00 am) of October 2 and a report from Amplify Energy at 8:55am (Cal OES # 21-5446, NRC # 1318463) confirmed a crude oil release from a pipeline near Platform Elly in federal waters approximately 4.2 miles west of Huntington Beach. Initial assessments estimated that the potential maximum release could be over 144,000 gallons, and OSPR mobilized personnel and resources for in-person and remote response. A UC was established with representatives of the USCG, OSPR, and Amplify Energy as the Responsible Party (RP). As the impact of the incident moved south along the coast, Orange and San Diego Counties were incorporated into the UC. An Incident Command Post (ICP) was initially established at Amplify's offices in Long Beach, and then was moved to Orange Coast College in Costa Mesa.

Amplify Energy identified their San Pedro Bay Pipeline (Pipeline P00547) as the source of the release. The line crosses both Federal and State jurisdiction so is regulated federally as an interstate pipeline by the Pipeline and Hazardous Materials Safety Administration (PHMSA). The line is approximately 17 miles in length, beginning offshore at Platform Elly and traveling onshore to the Beta Pump Station in the City of Long Beach, California. The offshore portion of the pipeline is approximately 15 miles in length and the onshore portion is approximately 2 miles in length (Ref. *PHMSA, CPF No. 5-2021-054-CAO*). See Leak Location Map.

Inspection of the line revealed that a 4,000-foot section of the pipeline was displaced with a maximum lateral movement of approximately 105 feet and had an estimated 13-inch split, running parallel to the pipe (Ref. *PHMSA, CPF No. 5-2021-054-CAO*). Preliminary reports indicate that the failure may have been caused by an anchor that hooked the pipeline, causing a partial tear. Investigating agencies estimated a minimum spill volume of approximately 24,696 gallons.

Over the course of the incident, on-water recovery efforts collected 8,063 gallons of liquid oil, and on-shore cleanup operations from Seal Beach to just south of the Mexican border recovered an additional 964 gallons (see Incident Overview Map). Thirteen sensitive sites were protected according to strategies outlined in Area Contingency Plans and the Oiled Wildlife Care Network (OWCN) was activated to collect and care for impacted wildlife. Several harbors and beaches were closed, and a fisheries closure was issued. At the peak of the response, over 1,800 personnel worked in the field, at the ICP, or remotely to assess, cleanup, and manage the incident. By December 27, 2021, all shoreline segments had met cleanup objectives and the response entered a transition period to monitor the area for reports of tar balls. On February 2, 2022, UC officially concluded all response efforts and OSPR and USCG returned to their standard emergency response posture.

OSPR Response Actions

Key OSPR spill response actions included:

- Received spill notification and initiated Field Response Team response to locate, identify, and secure the spill source and assess the situation in coordination with the USCG.
- Coordinated with USCG, RP, and local governments to form a UC for the response. Served as SOSC.
- On the second day of response, the OSPR Administrator flew on a USCG transport aircraft with other state and federal agency executives to overfly the spill site, and to coordinate among themselves and with local government to support the response.
- Served as Environmental Unit Leader (EUL) and Shoreline Cleanup Assessment Technique (SCAT) Coordinator to identify sensitive sites, recommend appropriate protective strategies, and evaluate the status of cleanup efforts from Seal Beach to the Mexican border. Worked with UC to establish and reach cleanup endpoints for impacted shorelines and maintained monitoring stance for potential additional oiling or reports of oil during transition period.
- Conducted oil sampling and chemical analyses at OSPR's Petroleum Chemistry Laboratory.
- Notified tribes and integrated cultural monitors.
- Initiated fisheries closure on October 3, in consultation with the Office of Environmental Health Hazard Assessment (OEHHA) and maintained one vessel for enforcement. The closure was expanded twice based on updated spill trajectories from NOAA. Conducted seafood sampling for OEHHA to determine public health risks of catching and consuming seafood in the closure area. Re-opened fisheries upon recommendation from OEHHA on November 30.
- Served as Wildlife Branch Director and coordinated wildlife operations (search and collection, care and processing activities) with the OWCN.
- Initiated and filled positions in the Public Health Assessment Unit (PHAU) to address fisheries closure, community air monitoring, and beach water and sediment quality monitoring in coordination with the US EPA, OEHHA, California Department of Public Health (CDPH), Regional Water Quality Control Boards (Santa Ana and San Diego), Orange County, San Diego County, and the local air districts (South Coast Air Quality Management District and San Diego Air Pollution Control District).
- Assisted in coordinating recreational vessel decontamination at Long Beach, Huntington, and Newport Beach harbors.
- Served as Liaison Officer (LOFR) and Public Information Officer (PIO) to keep stakeholders (agencies, elected officials, non-governmental organizations (NGOs), and fishing community) and the public informed through Liaison Updates, briefings, press releases, press conferences, and an incident website (www.socalspillresponse.com).

- Key contacts within the NGO community, as well as the Ocean Protection Council, were helpful in distributing information, including volunteer opportunities, and in identifying other interested NGOs.
- Worked with local, state, and federal government representatives in general to respond to their questions and requests for information.
- Served as the Volunteer Coordinator/Unit Leader and initiated a Volunteer Management System which included activating a Volunteer Hotline and online Volunteer Registration Portal (received over 10,000 volunteer applications).
- 182 OSPR staff served in-person or remotely within the following positions or functions:
 - Unified Command (UC)
 - Public Information (PIO)
 - o Liaison (LOFR)
 - Incident Tribal Liaison (ITL)
 - o Public Health Assessment Unit (PHAU)
 - Fisheries Closure
 - o Legal
 - o Oil Recovery and Waste Management
 - o Wildlife Branch
 - Environmental Unit (EU)
 - o Applied Response Technology (ART) Policy Implementation
 - Response Technology Evaluation (RTE)
 - Geographic Information Systems (GIS)
 - Volunteer Unit (VU)
 - Documentation (DOCS)
 - Logistics (LOGS)
 - Finance/Admin
 - Petroleum Chemistry Laboratory (PCL)
 - Natural Resource Damage Assessment (NRDA)
 - Investigation (not discussed in this report)

Response During a Pandemic

The P00547 Incident occurred during the COVID-19 Pandemic, yet large-scale spill responses require hundreds of people to travel from across the nation and interact in-person to manage the incident. The USCG filled the Safety Officer (SOFR) position for the incident and safety of the public and responders was the top priority for the response. Protocols were implemented to mitigate COVID-19 hazards in the field and at the ICP, including on-site nurses, contact tracing, mask mandates, temperature checks, and guidelines for distancing and cleaning. OSPR also ensured staff were able to take a COVID test prior to returning home. Due to advances in teleconferencing and document sharing technology, many responders were able to participate remotely, which reduced in-person responder numbers.

At the time of the incident and during the response, indoor masking was not required by Orange County, though face masks were required at all times in the ICPs. While most responders complied with mask mandates and cleaning protocols outlined by the response, maintaining distancing guidelines was challenging at the first ICP, but improved at the second ICP. Due to the extended duration of the response, compliance with COVID protocols was an ongoing challenge. Improvements to protocols and consistent reminders over the course of the response helped the response maintain an extremely low (<10 cases) COVID-positive rate.

Successes and Best Practices

This response was the first large-scale marine response since the Refugio State Beach Oil Spill in 2015. OSPR was able to implement many lessons-learned from that response to execute a more effective response for the P00547 Incident. Many new processes, templates, and software applications (SCATalogue, Wildlife Recovery, online Volunteer Registration Portal) that were developed in the wake of Refugio were used for the first time during this response and proved valuable. Improvements will continue to be made based on lessons learned from this response.

A major success of this response was the cooperation and unity of the UC. OSPR worked extremely well with the USCG and local governments to coordinate objectives, planning, and operations for the duration of the response. Integrating the counties into the UC played a critical role in expediting resources, providing local expertise, and information sharing. This unity translated to cohesive messaging in the Joint Information Center (JIC) and throughout the response.

A few other significant successes and best practices include:

- Hybrid in-person/virtual response facilitated through Microsoft Teams.
- Virtual Zoom/Microsoft Teams meetings were effective in expediting communication with elected officials, cooperating agencies, and NGOs through LOFR.
- First activation of the PHAU to coordinate the efforts of local, state, and federal agencies tasked with ensuring public health.
- Both the US EPA co-chair of the Regional Response Team (RRT) IX and the OSPR Administrator issued timely approvals to the Cytosol use request for vessel and equipment decontamination.
- Implementation of the Document and Data Sharing Control Plan.
- Having multiple fixed-care facilities in the area with trained staff as well as OWCN core staff on-site allowed for the highest quality care for wildlife.
- Affiliated and community volunteers were integrated early in the response. In addition to opportunities offered through the response, the VU worked with LOFR to distribute information to all 10,000 individuals that registered through the Volunteer Registration Portal on opportunities with local NGOs.
- Notification and integration of potentially affected Tribes.
- Early activation of LOGS and Finance staff.
- OSPR staffed a full-time "Ephemeral Data Coordinator" position for the first time during the initial spill response, helping to coordinate activities with the UC and directing daily NRDA field activities.

Recommendations

A table of the recommendations described in this report is provided below. OSPR will work with identified partners to implement these recommendations at future spills and exercises, as appropriate.

Code	Recommendation
	State On-Scene Coordinator
SOSC 1	OSPR, as part of the UC, should expect and require written delegations of authority from prospective LGOSCs prior to acceptance into UC so that all parties understand LGOSC authority and jurisdictions in regard to city, state, and county coastlines.
SOSC 2	OSPR, as part of the UC, should engage local jurisdictions early in the response to encourage harmonization of community public information by local cities and counties.
SOSC 3	As OSPR continues to implement the PHAU during drills and spills, roles of participating agencies within the Unit should be more well defined.
SOSC 4	OSPR should work with USCG to review and update existing lists of potential ICP facilities within each coastal Area Contingency Plan.
	Public Information
PIO 1	To improve efficiency for responding to media/public inquiries, it would be useful to obtain technology that would record/transcribe the calls from the JIC hotline phone number and enter them into the Jetty software, a comprehensive online public information platform.
PIO 2	OSPR should formalize protocols for working with other state agencies in order to maintain unified public messaging in the context of an oil spill response.
PIO 3	OSPR should develop a statewide contact list for non-English and American Sign Language translators in each region that could be contacted during the initial response.
PIO 4	OSPR PIOs should develop a pre-vetted network of ideal facilities in each region of the state that could be used as press briefing venues.
PIO 5	During significant spills, OSPR should deploy two PIOs to assist with the JIC and OSPR-specific activities (i.e., wildlife, volunteers, and fishery closure).
PIO 6	OSPR should work with JIC partners to improve transparency in communicating spill information to the public including maximizing spill website capabilities, and providing information regarding streamed press conferences.
	Liaison
LOFR 1	OSPR should consider dedicated LOFR positions to maintain continuity of operations during non-spill times.
LOFR 2	OSPR should develop a formalized process with other agencies for requesting ALOFR assistance and incorporate staff in quarterly training and drills.
LOFR 3	OSPR should evaluate the use of contractors to assist in outreach and LOFR efforts such as open houses and/or focused stakeholder communications.

The table below summarizes the recommendations described in this report.

Code	Recommendation
LOER 4	OSPR should formalize procedures for stakeholder agencies for efficient
	integration and coordination within a response for resources and information
	needs.
	Incident Tribal Liaison
ITL 1	A member of the Cultural Monitoring Team (CMT) should be co-located with
	the EU to streamline real-time communication. Due care would need to be
	practiced by the CMT to protect confidential cultural information.
ITL 2	OSPR and USCG should continue working with State and Federal counterparts
	to provide cross training for HPSs and familiarity training for responders on the
	needs, roles, and responsibilities of the HPS to facilitate continuity and mutual
	understanding.
ITL 3	The ITL should preemptively inform the RP accounting team, early in the
	response, regarding the role of the CMT and help pre-identify best points of
	contact for addressing issues and questions.
PHAU 1	OSPR should facilitate PHAU implementation by working with partner agencies
	to formalize the Unit in agency contingency plans.
PHAU 2	OSPR should evaluate conducting training sessions and outreach to local and
	state agencies to promote awareness of PHAU structure, objectives, and
	deliverables. USPR should consider implementing the Unit at industry tabletop
	of PHALL purpose and function
	OSPR should work with state public health agencies such as OEHHA COPH
PHAU 3	and the California Air Resources Board to build capacity to provide PHALL
	leadership at the state level. Ideally, OSPR should identify state partners who
	can serve in the Unit Leader position in the event that the US FPA is not
	available.
	Fisheries Closure
	OSPR should engage with OEHHA and CDFW Marine Region to make the
FISH I	following improvements to streamline response:
	Update details in the Sampling Protocol.
	Pre-identify contractors for sampling efforts.
	Create Job Aids to clarify roles and responsibilities for OSPR and Marine
	Region staff.
FISH 2	CDFW should consider 1-2 positions within CDFW to manage fisheries closures,
113112	to facilitate strong coordination among OEHHA, CDFW Marine Region, and
	OSPR.
FISH 3	OSPR should develop signs that include locally relevant languages, and change
	messaging to include oil spill and seafood safety information. Develop
	standard instructions for volunteers posting and removing signage. Expand on
	FAQ and flowcharts that were developed to create documents that distribute
	information quickly to the public online.

Code	Recommendation
FISH 4	OSPR should identify changes to Fish and Game Code §5654 to establish an ability to enforce fisheries closures. Address questions related to transit through the spill/closure area, recirculating tanks, baitfish, gear service intervals, and communication.
	Legal
LEGAL 1	Newer staff within the legal team had not yet experienced a spill of this magnitude. OSPR legal staff should regularly attend drills and exercises to facilitate efficient integration into response and NRDA activities.
	Oil Recovery and Waste Management Operations
OPS 1	OSPR should encourage regulated companies with contingency plans on file to develop options for contracting with a third party that can efficiently manage the waste process in the event of a large incident where internal resources may be directed to other response priorities.
OPS 2	OSPR should evaluate the use of a rapid contracting mechanism between the RP and offsite decontamination stations if vessel decontamination is required in a response, and develop messaging for the public regarding boat cleaning that can be shared timely.
	Wildlife Operations
WILDLIFE 1	Continued emphasis on additional staffing and training for key OWCN and OSPR roles should be considered. This includes the potential need for an OSPR Wildlife Coordinator position that could be dedicated to the Wildlife Branch Director role during response, and during non-spill times, manage updates of the Wildlife Response Plan for California, and coordinate with OWCN for training and development.
WILDLIFE 2	OSPR should address technical issues and refine protocols for the Wildlife Recovery Application, with input from wildlife data stakeholders.
WILDLIFE 3	Increased support for the OWRMD Application, as well as access to technical support staff, are needed to ensure this critical tool continues to operate effectively.
WILDLIFE 4	OSPR should develop protocols and job aids to expedite use of contracted local professionals for reconnaissance in future spills.
	Environmental Unit
EU 1	OSPR should acquire new iPads for both SCATalogue and drone flights to keep up with software upgrades and data management. OSPR should also develop a structured SCATalogue training manual and prioritize continuous SCATalogue program maintenance.
EU 2	OSPR should identify additional staff dedicated to back up EU positions and SCAT operations.

Code	Recommendation
FU 3	OSPR should initiate inter-agency training and exercises to test specific
205	functions of the response in a focused manner to address authorities,
	expectations, and interactions through the EU and/or LOFR. This includes
	interagency, elected official, and stakeholder meetings and coordination of
	SCAT/Sign-Off Field Team inspections.
	Applied Response Technology Policy Implementation
ART 1	OSPR should train staff periodically on procedures for the appropriate selection
	and approvals of licensed OSCAs, and use drills to practice proper execution.
ART 2	OSPR should continue educational communications with RTE vendors to deter
	challenging interactions in the future.
	Response Technology Evaluation
RTF 1	OSPR should work with other agencies to develop a process for the structured
	review of technologies during a California marine oil spill response.
	Geographic Information Systems (GIS) Support
GIS 1	OSPR should improve SCATalogue processing for use with modern equipment
	and establish data sharing and processing space that can incorporate external
	GIS professionals during spill response.
GIS 2	For Wildlife Recovery data, processing protocols must be rewritten for a daily
	map rather than mapping each survey and additional training should be
	provided for staff. The app could also be simplified and tested using more
	modern hardware.
GIS 3	OSPR should coordinate drills with external partners on spills (e.g., NOAA and
	contractors) and all GIS analysts coming to a spill should be well versed in ICS
	and chain-of-command. OSPR should consider a GIS Strike Team as a formal
	ICS functional group.
	Volunteer Coordination
VU 1	OSPR should ensure that the volunteer hotline number is included with the
_	initial press release or at the same time the wildlife hotline is activated. It is also
	recommended that the JIC establish a general information phone number or
	website that can be activated during the initial response.
VU 2	OSPR should coordinate with volunteer agencies to support participation in
	spill response training, including drills and exercises.
VU 3	OSPR should evaluate coordinating with NGOs and local governments to
	expand numbers of affiliated volunteers prior to an incident.
	Documentation
DOCS 1	More exercises should test DOCS so OSPR and federal partners can discuss
	documentation policies with plan holders prior to responses.
	OPSR should acquire equipment in sufficient number to ensure DOCS remains
	functional, even with technical malfunctions. When ICPs are relocated, specific
	attention should be aimed at ensuring all equipment is operational prior to
	other units relocating to the new site.

Code	Recommendation	
DOCS 3	OSPR should develop standardized templates that can be posted early in the response in every unit to provide reminders of documentation policies and develop protocols. Additionally, a clear documentation management process that supports a hybrid in-person/virtual response is essential, particularly for documents that require UC approval, along with a centralized repository for virtual and hard-copy files.	
	Logistics	
LOGS 1	To meet staffing needs for large, extended incidents, OSPR should train at least four more support staff for a total of six, as well as two more staff at the LSC level for a total of four.	
LOGS 2	OSPR should initiate in-person coordination with RP LOGS staff as soon as possible since efficient remote collaboration may not be established during the initial response.	
Finance		
FINANCE 1	OSPR should train more staff to serve within the Finance Section to ensure continuity of regular OSPR finance and administration responsibilities during large responses.	
FINANCE 2	OSPR should continue to advise and encourage the RP to provide detailed information about the claims process and distribute fact sheets early in the response.	
FINANCE 3	OSPR should update rate sheets for personnel, equipment, and mileage and establish the same for relevant CDFW equipment.	
	Petroleum Chemistry Laboratory	
PCL 1	OSPR should evaluate the need for multiple SC staff for a spill the size of the P00547 Incident and increase the numbers of in-house SCs currently trained and gualified to meet this need.	
PCL 2	OSPR should split or share ephemeral environmental samples between response and investigation as they are collected, with response samples expedited to PCL.	
	Natural Resource Damage Assessment	
NRDA 1	OSPR should develop a template Response-NRDA data sharing agreement to include a streamlined process through which NRDA can receive critical information directly from Planning and Operations Sections.	
NRDA 2	OSPR should create a job aid to clarify roles and responsibilities of NRDA and the Wildlife Branch for collection of fish and invertebrate mortality information.	
NRDA 3	OSPR should hold a NRDA Science Workshop or other scientific outreach event to explain the NRDA process, and discuss how science informs the process, and how academic researchers can become involved in helping the natural resource trustees assess injuries and develop restoration projects that compensate for the harm caused by oil spills.	

State On-Scene Coordinator

Objectives and Responsibilities

The OSPR Administrator is statutorily designated as the SOSC (i.e., Incident Commander) for oil spills. Under ICS, a UC is established as the decision-making body for the incident. The UC sets priorities, establishes objectives, and gives direction to the responders involved in the incident. For oil spills, the UC consists of OSPR, the USCG or US EPA, a representative of the RP, and local government (when appropriate). Ultimately, the USCG or US EPA has the authority to make final decisions if there is not consensus within the UC. The ICS structure for oil spills, and similar types of incidents, is detailed in the USCG *Incident Management Handbook* (Ref. May 2014).

For the Pipeline P00547 Incident, OSPR representatives served as the SOSC and Deputy SOSC, overseeing all requirements of the OSPR Administrator and the jurisdictional interests of the State of California. During the evolution of the response, OSPR SOSC's were responsible for the safety of over 1,800 response personnel working in the field and at various ICPs throughout the spill footprint.

Incident Activities

ESTABLISHMENT OF UNIFIED COMMAND

In this response, the UC was responsible for managing an effective, coordinated response to the breach on Amplify Energy's Pipeline P00547. Utilizing the National Contingency Planning Framework, the SOSC worked with the other Incident Commanders (USCG, RP, County of Orange, and County of San Diego) to establish a UC that would organize and effectively remove oil from State waters and coastlines while protecting wildlife from further contamination.

SETTING RESPONSE OBJECTIVES AND PRIORITIES

As a member of the UC, the SOSC assisted with developing incident objectives that ensured a coordinated and effective response. The SOSC assisted the UC with addressing all safety concerns while balancing environmental and wildlife priorities important to CDFW mandates and mission.

COMMUNITY, STAKEHOLDER, AND ELECTED OFFICIAL ENGAGEMENT

In the initial moments of the response, the SOSC required that the lead LOFR position within the UC be staffed by a governmental official, specifically a staff member from OSPR. This role is crucial in setting the immediate engagement of the impacted community. The timely information dissemination to this community, stakeholders, elected officials, and all interested parties ultimately sets the tone of the response and how they feel engaged and informed.

INITIATING TRIBAL LIAISON ROLE

Several Federal and State laws, regulations, and policies govern the protection of cultural and historic resources during an emergency response in California. For purposes of oil spill response, the two most critical laws that the UC must address are: *The National Historic Preservation Act of 1966* (Section 106), and *The Native American Graves and Repatriation Act of 1990*. In 2014, CDFW adopted a policy that stipulated that such consultation would include both federally and non-federally recognized Tribes. During the initial onset, the SOSC identified the need to stand up the

Incident Tribal Liaison (ITL) role within the ICS structure. Bringing in a subject matter expert who could navigate the Native American Heritage Commission process and begin a dialogue with tribes in the area of response was crucial in making sure that responders in the field did not disturb or damage any tribal or historic sites during the removal of oil from the coastline. Based on this engagement, cultural monitors were hired by the RP to observe all work done within cultural and historical sensitive sites in coordination with a Historic Properties Specialist (HPS) assigned to the incident.

SCIENTIFIC SUPPORT & TECHNOLOGY

Due to high potential volume of discharge from this response, the UC decided to use the best available technology in assisting with locating oil sheen and forecasting its potential trajectory. The UC and SOSC initiated the involvement of NOAA's Scientific Support Coordinator, who, in turn, reached out to NASA and the Jet Propulsion Lab for assistance in using satellite imagery to help build the Common Operating Picture for briefings and operational awareness. Also, during the response, OSPR made plans to hold a post-response technology workshop (outside of OSPR's normal biennial technology workshop schedule) focused specifically on oil detection tools that can be rapidly deployed in nighttime and low visibility conditions.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Designation of the CDFW Petroleum Chemistry Laboratory (PCL) as lead laboratory should be identified at beginning of response. At the onset of the response, the SOSC was deliberate and consistent with messaging that the OSPR's PCL should be the lead lab receiving and analyzing response oil samples. The lab's chemical analyses were utilized extensively in determining extent of oiling along the coastline. This information assisted in operational priorities and assignments to the RP's cleanup contractor.

2) Early designation of a Tribal Liaison. In the P00547 Incident, the SOSC and UC members identified the early need to assign a properly trained and experienced ITL. In this response, it was decided that OSPR would fill the role as ITL and work with the FOSC representative to initiate the Federal Governmental Consultation with federally recognized Tribal Nations within the response area.

3) Early designation of Local Government On-Scene Coordinator (LGOSC). With early forecasting of spill trajectory and aerial observations, the SOSC and UC members were able to identify potential impact areas and address the need to engage and work with local cities, jurisdictions, and emergency managers. Based on the challenges at Refugio, the SOSC explained the need to engage the Counties of Orange and San Diego LGOSCs to assist in the response. Delegations of authority and expectations of involvement in the UC were explained at the onset and those LGOSCs agreed to have decision-making authority on behalf of the cities within their county jurisdictions.

Successes and Best Practices

- Establishment of a government agency representative as the lead LOFR.
- Ability to have OSPR vessel on-site on the day of the spill report to assess and take field samples.
- Microsoft Teams/Zoom worked well for calls with local stakeholders, elected officials, and NGOs.
- Establishment of PCL as lead chemistry laboratory.
- Use of NOAA's Environmental Response Management Application (ERMA) as common operating picture for UC and stakeholder briefings.
- Early establishment of Data Sharing Plan and Documentation Unit Leader (DOCL).
- Establishment of a NRDA Coordination Plan to share data to avoid duplicative efforts.
- Immediate internal bifurcation of OSPR response activities from OSPR investigative activities.

Challenges and Recommendations

SOSC 1: When beach segment signoffs initiated, the UC found that County LGOSCs did not have authority to signoff beach segments as meeting cleanup endpoints for city beaches within their county. This information would have been helpful in advance to facilitate the endpoint signoff documents. OSPR, as part of the UC, should expect and require written delegations of authority from prospective LGOSCs prior to acceptance into UC so that all parties understand LGOSC authority and jurisdictions in regard to city, state, and county coastlines.

SOSC 2: At the earliest stages of this response, information sharing and coordination with local government was initially challenging and as a result inaccurate information was made public. OSPR, as part of the UC, should engage local jurisdictions early in the response to encourage harmonization of community public information by local cities and counties.

SOSC 3: Although the PHAU was ultimately seen as a success in this response, the US EPA's role and jurisdiction within the Unit was unclear since they were not serving as the lead federal agency on the response. Numerous discussions and side-bar conversations occurred related to jurisdiction, funding, and roles. As OSPR continues to implement the PHAU during drills and spills, roles of participating agencies within the Unit should be more well-defined.

SOSC 4: Establishing a stable long-term ICP location was challenging given spill dynamics and COVID safety protocols. OSPR should work with USCG to review and update existing lists of potential ICP facilities within each coastal Area Contingency Plan.

Public Information / Joint Information Center

Objectives and Responsibilities

OSPR Public Information Officers (PIOs) are part of the Joint Information Center (JIC) and work with counterparts from other agencies/tribes with jurisdiction on the incident. Primary JIC objectives are to inform media, external stakeholders, and the local community of actions being taken during an oil spill response.

Specific PIO responsibilities in a JIC include: conducting live and taped interviews; constructing talking points for the UC; recognizing social media trends; and posting press releases, media advisories, photos, graphics, and videos with UC approval. They receive and respond to inquiries via phone and electronic means, and translate and disseminate Spanish language information.

For the P00547 Incident, an OSPR PIO was initially appointed lead PIO by the UC, upon recommendation of the FOSC and SOSC. This PIO reported directly to the UC and coordinated overall efforts within the JIC. A USCG public affairs chief was appointed as JIC Manager. In the days and weeks that followed, OSPR and USCG PIOs assumed/maintained leadership positions within the JIC, and other agency representation included the California Governor's Office of Emergency Services (Cal OES) and Orange County. The RP also maintained representation in the JIC throughout the response.

Incident Activities

Staff within the JIC were assigned to handle many tasks, including producing press release/fact sheets, gathering images, monitoring media, media relations, and planning press briefings and other public events.

KEEPING PUBLIC/MEDIA INFORMED WITH PRESS RELEASES/FACT SHEETS

An initial UC press release was approved and distributed on the evening of October 2 and a JIC was formed with on-scene PIO representatives from OSPR, USCG, and the RP. The initial press release listed media contacts from USCG and OSPR. By the next morning, each of these contacts had received between 50-100 inquiries from local, national, and international media outlets. The initial press release was the first in a long line of public information products produced by the JIC. In addition to creating incident-specific fact sheets, OSPR's pre-produced fact sheets on "Characteristics of Oil" and "Tarballs" proved crucial in informing the media and public.

DAILY PRESS BRIEFINGS

On the morning of October 3, it was determined that regular press briefings were needed due to the extremely high volume of media requests and overall interest in the response. As part of a strategy of keeping members of the UC engaged in response efforts on-site, an area at the corporate office campus was chosen as a venue for the initial press briefing. Subsequent daily briefings were held at Bolsa Chica State Beach, downtown Long Beach, and at the Huntington Beach Lifeguard Station. The final regular daily press briefing was held on October 7, when media interest began to wane, and their questions shifted toward the investigation. OSPR PIO also

coordinated a press briefing with personnel from the OWCN. The briefing included a facility tour with wildlife in care.

DEVELOPMENT OF INCIDENT WEBSITE

High media and public interest immediately warranted an online source for information. Although OSPR maintains its own online platform for public information for smaller to medium responses, the OSPR PIO coordinated a contract via the RP with The Response Group, to utilize the corporation's Jetty software (a comprehensive public information platform) to develop a website with greater functionality. The site was launched on October 3, at SoCalSpillResponse.com. This website proved incredibly efficient as an information distribution tool and was used to publish a broad suite of facts, figures, and public advisories. The site remained active throughout the course of the response.

MEDIA/PUBLIC INQUIRIES

The incident website was promoted as primary source of information for media and public inquiries. The site included a form where individuals could ask questions. An assistant PIO of media relations was assigned to reply to the inquiries on a timely basis. There was also a public information hotline developed that accepted calls, voicemails, and text messages. Both methods were useful in responding to inquiries.

IMAGE/VIDEO GATHERING

Assistant PIOs from USCG and OSPR worked in the field to gather imagery of response operations, press briefings, and wildlife events. This imagery was extremely useful to keep the media/public informed and to showcase the comprehensive efforts and resources dedicated to the response. The photos were shared on the response website and shared with media.

MEDIA MONITORING

Representatives from Cal OES took the lead in media monitoring, providing use of a dedicated platform for gathering online and broadcast coverage. This monitoring was useful in that the PIO was able to keep the UC apprised of current trends in coverage.

ENGAGEMENT WITH LIAISON OFFICERS

The JIC stayed in close contact with LOFR to share and coordinate information to be disseminated to the public and stakeholders. The JIC reviewed all LOFR updates to ensure coordination in messaging.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Develop pre-vetted messaging for public/wildlife safety. Since Refugio, OSPR PIOs have worked with wildlife and volunteer colleagues to maintain efficient messaging to be pushed out early in a response. This messaging includes verbiage to discourage members of the public from volunteering spontaneously without training and from attempting to rescue oiled wildlife. This messaging not only went out in the initial (and subsequent) press releases, but it was also pushed to large media outlets including the Los Angeles Times, which ran it in their early coverage of the spill.

2) Develop a system for the UC to approve photos/videos. The approval of imagery was made easier for this response with use of internal information platforms such as Microsoft Teams. Instead of printing out photos, the imagery could be uploaded to Teams for UC review/approval.

Successes and Best Practices

- The UC appointed a government agency with spill response jurisdiction as JIC Manager to maximize public trust and ensure objectivity.
- The UC state, federal, and local agencies always led and controlled press conferences.
- Jetty platform for the spill website proved essential as an information tool for a large spill, including provision of press releases, LOFR updates, fact sheets and fisheries closure.
- Ease of Resource Requests: The UC's directive giving each section chief authority to secure resources at their own discretion was helpful to streamline ordering of additional staff and other response needs.
- OSPR PIO contacted OWCN's PIO and requested their participation in the response as a field PIO. This partnership allowed OWCN to showcase its efforts and keep the public/media informed as to wildlife recovery work and veterinary care operations.
- JIC morale and cooperation could not have been better. All PIOs from responding agencies worked together cohesively and put the best interests of the response ahead of their own interests.

Challenges and Recommendations

PIO 1: Although media and public inquiries were fielded through the Jetty website efficiently, voicemails filled up fast and there was not an efficient way to record the transcripts of these calls. To improve efficiency for responding to media/public inquiries, it would be useful to obtain technology that would record/transcribe the calls from the JIC hotline phone number and enter them into the Jetty software.

PIO 2: There was some confusion regarding agencies' roles in the JIC, which caused challenges for maintaining unified messaging. OSPR should formalize protocols for working with other state agencies in order to maintain unified public messaging in the context of an oil spill response.

PIO 3: Although Spanish and American Sign Language contractors were eventually hired by the response, they were not contracted at the onset of the incident, when translation of key messages, like fisheries and beach closures, would have been appropriate. OSPR should develop a statewide contact list for non-English and American Sign Language translators in each region that could be contacted during the initial response.

PIO 4: Not all of the press conference venues were adequate, in particular the location in downtown Long Beach. It was not a secured venue, which opened it up to public disruption, and it lacked an adequate exit route for the UC. OSPR PIOs should develop a pre-vetted network of ideal facilities in each region of the state that could be used as press briefing venues.

PIO 5: Public messaging for volunteering and wildlife response was overwhelming due to significant interest from stakeholders and the public. During significant spills, OSPR should deploy

two PIOs to assist with the JIC and OSPR-specific activities (i.e., wildlife, volunteers, and fishery closure). OSPR PIOs would work directly with each group to develop relevant press releases/conferences, fact sheets, and social media posts for JIC and UC approval.

PIO 6: The public was not able to easily access online streamed press conferences. OSPR should work with JIC partners to improve transparency in communicating spill information to the public, including maximizing spill website capabilities, and providing information regarding streamed press conferences.

Objectives and Responsibilities

The Liaison Officer (LOFR) is the point-of-contact for assisting or cooperating agencies, known as Agency Representatives (AREPs), elected officials, and other key stakeholder groups, such as Non-Governmental Organizations (NGOs) and the fishing community. The LOFR facilitates response efforts as a conduit of information and assistance between organizations within and outside the response structure. In large responses, there are often Assistant LOFRs (ALOFRs) to support outreach and coordination efforts.

For the P00547 Incident, OSPR representatives served as the LOFR and ALOFRs, with other agencies providing additional ALOFRs. At its height, the LOFR Unit had 8 OSPR ALOFRs in the ICP, 4 remote/virtual ALOFRs, and 30 AREPS from local, state, and federal agencies at the ICP. Remotely, more than 360 agency representatives participated in daily briefings and more than 120 elected officials and staff participated in a separate daily briefing. Additional briefings were held throughout the response for NGOs and the fishing community.

Incident Activities

KEEPING AREPS, STAKEHOLDERS, AND ELECTED OFFICIALS INFORMED

It was the daily responsibility of the LOFR to provide updated information to AREPs, elected officials, and other stakeholders. This was accomplished in two ways:

- 1. Daily Zoom/Teams meetings
- 2. Daily written LOFR Updates sent out at the end of each day. These updates are distinguished from press releases in that they are summaries of response actions and resources, with more detail than typically found in press releases, and focused on issues of particular interest to the stakeholders.

As part of this effort, a contact list was maintained with nearly 1,000 stakeholders to distribute meeting invitations and written updates.

RESPONSE TO QUESTIONS/INQUIRES

LOFR responded to numerous inquiries daily from AREPs, remote ALOFRs, and stakeholders, as well as other members of the UC structure. At the peak of the response, LOFR received over 200 emails per day. Typical questions/answers covered potential oil impacts, fishery and beach closures, pipeline status and repair, shoreline impact reports, volunteer opportunities, oiled wildlife information, and requests for status updates.

COORDINATION OF VIP AND FIELD TOURS

The LOFR coordinated approximately 20 VIP and field tours within the first few weeks of the response. Attendees included Lt. Governor Kounalakis, USCG Admiral Penoyer, Senator Padilla, Attorney General Bonta, members from the Mexican Navy, local, state, and federal legislators, and other high-ranking state and federal agency representatives. These tours involved outreach to

participants, preparing a briefing packet, providing logistical oversight for the ICP and field visits, arranging technical experts as appropriate, and coordinating the ICP briefing.

DEVELOPING FACT SHEETS

LOFR developed several Fact Sheets and graphics to better communicate oil spill concepts and processes. These included Life of a Tarball, Phases of Oil Spill Response, Shoreline Cleanup, Cleanup Endpoints Fact Sheet, Signoff 101, and Shoreline Inspection FAQ.

LOCAL OFFICE OF EMERGENCY SERVICES (OES) DAILY COOPERATOR'S CALL

Early in the response, the LOFR was asked to participate and provide input for the Local OES daily conference call with other OES Regions, a standard practice for emergencies like fires and floods. While initially separate, these calls were soon incorporated into the daily Zoom call with all AREPS.

TRIBAL AND HISTORICAL PROPERTY SPECIALIST CONCERNS

LOFR assisted in the early coordination of Tribal and Historical Property concerns and worked directly with Incident Tribal Liaisons on integrating cultural monitors into the response.

PUBLIC HEALTH MONITORING

LOFR assisted in the early coordination of addressing public health concerns related to fisheries closure, community air monitoring, and beach water and sediment quality monitoring. LOFR fostered cooperation and coordination among state and local public health agencies in gathering critical information necessary to provide timely and consistent messaging to the public regarding potential exposure to oil on shorelines and water, and in seafood.

As the group grew, an OSPR ALOFR was assigned to coordinate the Public Health Assessment Unit with the US EPA and several local agencies, and the unit moved into the Planning Section.

RELAYING AND ELEVATING AREP & STAKEHOLDER CONCERNS

During daily calls and briefings, AREPs and other stakeholders provided specific and relevant response information. This information was summarized in an ICS Form 213 General Message and forwarded to the appropriate members of the response. At the ICP, AREP concerns were also tracked on an ICS Form 233 Open Action Tracker.

FACILITATING US-MEXUS PACT COORDINATION

LOFR worked with representatives from the US EPA, USCG, and Mexican Navy, to coordinate efforts as tarballs moved south to the border.

COORDINATION OF SCIENTIFIC ACCESS AND SHORELINE MANAGEMENT PROJECT REQUESTS

LOFR reviewed scientific research access requests and shoreline management projects to ensure activities would not conflict with operations.

COORDINATION OF TARBALL OBSERVATIONS

An NGO (Surfrider) developed a mobile phone application for the public to report tarball observations. LOFR coordinated transmitting data collected on the application to the UC. This harnessed the energy from the local community, ensured reports provided sufficient detail, and avoided duplicate reporting to the UC's tarball reporting email. LOFR also collated reports of tarballs from local government and provided to Operations and Planning Sections.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) The lead LOFR should be assigned from a government agency and not the RP. OSPR served as the Lead LOFR during the P00547 Incident. The Regional Contingency Plan now outlines that the LOFR will be a representative of a government agency and, since 2016, this has become standard practice in California.

2) OSPR should identify agencies that potentially would provide Assistant LOFR personnel and plan to incorporate them into drills and exercises. For the last several years, OSPR has worked with other federal and state agencies to provide ALOFRs for drills and spills. The US EPA and USCG both provided an ALOFR for this response.

3) OSPR should evaluate the need for LOFR staff for a spill the size of the Refugio Oil Spill and increase the numbers of in-house LOFRs currently trained and qualified to meet this need. Since 2016, OSPR has developed and implemented a rigorous internal LOFR training program. As of the writing of this report, OSPR has 12 staff who are trained as ALOFRs and 3 who are trained to assume the LOFR role for a spill of this size.

Successes and Best Practices

- Staffed virtual ALOFRs to work on contact lists, email inquiries, and assist with updates.
- Early coordination among state and local public health agencies to provide timely and consistent messaging to the public regarding potential exposure to oil on shorelines or water.
- Hosted Teams/Zoom events for stakeholder meetings and prepare briefing slides.
- Used ICS 213 and ICS 233 forms to capture information received from stakeholders.
- Provided the ICS 209 form and Quad Slide (if available) for the detailed information that changed daily in lieu of providing specific numbers in the LOFR Update.
- USCG ALOFR provided critical assistance in coordinating VIP visits and overflights.
- Representatives from the local OES offices were critical contacts for LOFR as they helped elevate local AREP concerns and could help coordinate the various local jurisdictions.
- Templates developed in this response for fact sheets/graphics and VIP tracking should be utilized for future responses.

Challenges and Recommendations

LOFR 1: OSPR currently has no positions that can be dedicated to LOFR work during non-spill times. OSPR should consider establishing dedicated LOFR positions to maintain continuity of operations during non-spill times. Responsibilities would include outreach to key stakeholder groups (such as NGO, tribal and scientific communities), participation in area and regional contingency planning, yearly meetings and trainings with elected officials and key stakeholders, development and maintenance of regional outreach lists, plans and protocols, and coordination with other agency partners including Cal OES, state and regional water boards, and local Operational Area Coordinators.

LOFR 2: Having an ALOFR from an additional agency (US EPA) was helpful, but the request was delayed due to a lack of a clear process to make the request. OSPR should develop a formalized process with other agencies for requesting ALOFR assistance and incorporate staff in quarterly training and drills.

LOFR 3: An Open House was initially considered at the beginning of the response, but ultimately was determined to be unnecessary. If the Open House had been needed, it would have been valuable to have a contractor coordinate the logistics of planning an Open House. OSPR should evaluate the use of contractors to assist in outreach and LOFR efforts such as Open Houses and/or focused stakeholder communications.

LOFR 4: Integrating agencies into the response can be challenging as all have different spill response skillsets and objectives for participating. OSPR should formalize procedures for stakeholder agencies for efficient integration and coordination within a response for resources and information needs.

Incident Tribal Liaison

Objectives and Responsibilities

The Incident Tribal Liaison (ITL) works as a Technical Specialist and in conjunction with the LOFR to address Tribal concerns during spill response operations. The role of the ITL is to liaise with Tribal Representatives, including federally recognized and non-federally recognized tribes, whose cultural, natural and hereditary resources may be impacted by the oil spill or response operations. The ITL tries to address any specific concerns identified by Tribes and works very closely with a Historical Property Specialist (HPS), while maintaining consistency with all federal and state requirements.

Incident Activities

INITIAL TRIBAL NOTIFICATION

As per OSPR policy, the Native American Heritage Commission (NAHC) was contacted to identify the potentially affected tribal entities. Based on information provided by the NAHC, the ITL contacted 26 tribes via email and a subsequent follow-up phone call, advising them of the oil spill emergency. Contact information for the ITL and LOFR was provided, as well as a request that tribal representatives contact the ITL with any questions or concerns and an invitation to participate.

CULTURAL MONITORING TEAM (CMT) INTEGRATION

Cultural monitors were deployed throughout the response area to assess areas of Tribal sensitivity and document any issues of concern. The ITL worked with the monitoring teams, and coordinated with key UC units, including the EU, to ensure operations ran smoothly.

MEETINGS FOR LOCAL GOVERNMENT OFFICIALS

The ITL coordinated outreach on behalf of the LOFR to encourage interaction of local Tribal governments with all government-related LOFR activities, including meetings, public forums, and government-to-government consultations.

COMPLIANCE WITH FEDERAL/STATE DIRECTIVES

The ITL worked to ensure that all operations complied with all federal and state Tribal mandates and served as a subject-matter expert to ensure that the UC was aware of all requirements.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Expanded Cultural Historic Group Focus for OSPR. Since Refugio, OPSR has developed a Cultural Historic Group framework, protocols, and guidance document for staffing the unit. OSPR also has designated and trained staff to serve in the ITL role.

2) Tribal Integration into a Response. The specific recommendation coming out of Refugio was to encourage local tribes to HAZWOPER train cultural monitors and tribal members prior to a spill response. Garnering participation in such training from Tribal representatives remains a challenge, likely due to the time commitment for the courses. OSPR developed a protocol and a curriculum for Cultural Monitors who were not likely to be exposed to significant amounts of oil. This new

curriculum was implemented in the P00547 Incident response and was far less time-intensive, more accessible, and greatly assisted in onboarding field staff for the CMT.

3) Timelines for Cultural/Historical Review for Shoreline Operations. Post-Refugio, OSPR developed a framework for how and when cultural and historical property reviews need to integrate with shoreline operations. This helped improve integration in the P00547 Incident response, but further changes are needed to facilitate strong coordination between the cultural monitors and the HPS.

4) Cultural-ICS Sensitivity Training. Staff identified as ITLs have participated in several workshops and training programs sponsored by intra-tribal councils. OSPR had a tribal/cultural break out group at the all-staff training after the Refugio Oil Spill and will continue to foster staff training at all levels.

Successes and Best Practices

- The training of OSPR staff for the ITL role facilitated the engagement of Tribal entities early in the spill response. This was strengthened by relationships that were established between OSPR staff and Tribal representatives at the Refugio Oil Spill. Additionally, the training of non-ITL OSPR staff and their sensitivity to tribal and cultural concerns, especially the SOSCs and EU staff, further facilitated the on-boarding of cultural monitors.
- OSPR's past cross-training with other state and federal agencies on coordination with Tribal entities helped to ensure consistency of approach and expectations and should continue.
- Development of an ICS Form 214 template (daily time reporting) for the cultural monitoring team was useful.

Challenges and Recommendations

ITL 1: While the EU was supportive and knowledgeable of the role that the CMT played, communication between the two parties could have been more efficient. A member of the CMT should be co-located with the EU to streamline real-time communication. Due care would need to be practiced by the CMT to protect confidential cultural information.

ITL 2: Four different federal HPSs deployed during this response, resulting in a lack of continuity for those working with them, including the ITL and LOFR. OSPR and USCG should continue working with State and Federal counterparts to provide cross training for HPSs and familiarity training for responders on the needs, roles, and responsibilities of the HPS to facilitate continuity and mutual understanding.

ITL 3: The CMT found communication with RP representatives challenging, particularly regarding the reimbursement processes. The ITL should preemptively inform the RP accounting team, early in the response, regarding the role of the CMT and help pre-identify best points of contact for addressing issues and questions.

Objectives and Responsibilities

The Public Health Assessment Unit (PHAU), within the Planning Section, is comprised of local, state, and federal agencies that have duties and authorities to ensure public health within their areas of responsibility, including in the event of an oil spill. The Unit coordinates public health agencies, which are responsible for conducting sampling to address public health exposures, interpreting analytical data, and issuing communications regarding public health decisions and other reporting to the public. For a marine oil spill, the PHAU consists of three subunits: Air (community air monitoring/sampling to support advisories for potential airborne exposures), Beach/Harbor (beach water and sediment sampling to support shoreline closures and reopenings), and Seafood Safety (fisheries sampling and analysis to support fisheries closures and re-openings).

The P00547 Incident was the first response for which the PHAU was established. The U.S Environmental Protection Agency (US EPA) served as Unit leader and OSPR coordinated the Unit's activities. The subunits were led by South Coast Air Quality Management District (Air), Orange County Environmental Health Division (Beach/Harbor), and OSPR (Seafood Safety). The Seafood Safety Subunit moved to the Environmental Unit (EU) after the PHAU demobilized, and the Subunit's efforts are discussed in a separate section of this report. PHAU objectives included the following:

- Coordinate the efforts of local, state, and federal agencies tasked with ensuring public health.
- Ensure that sampling methodologies and action levels were appropriate for local health officers to issue public health advisories that reflect the nature and extent of threats posed to public health due to an incident and to inform public health decisions.
- Serve as the central point of information sharing and messaging regarding public health within the ICS structure.

Incident Activities

INTEGRATION OF PUBLIC HEALTH AGENCIES INTO THE RESPONSE ORGANIZATION

The National and Region IX Contingency Plans recognize that coordination between the FOSC and local/state public health agencies is necessary when a spill may pose public health risks, but there has not been a clear or consistent strategy for this coordination. The PHAU provided a needed mechanism to integrate public health agencies into the oil spill response. In addition to the agencies filling the leadership positions described above, the Office of Environmental Health Hazard Assessment (OEHHA) and California Department of Public Health (CDPH) provided technical expertise, and the Regional Water Quality Control Boards (Santa Ana and San Diego), San Diego Air Pollution Control District, and San Diego Department of Environmental Health and Quality provided input on sampling plans. The direct involvement of multiple public health agencies was critical in achieving response objectives to protect public health and in lending credibility to the response's public health sampling and communications.

PUBLIC HEALTH DATA INTERPRETATION AND COMMUNICATION

The PHAU interpreted the analytical results from air monitoring/sampling, water, and sediment sampling, and provided briefings for the UC. Analytical results from Seafood Safety were interpreted by OEHHA. PHAU members represented the Unit on LOFR calls for agencies, elected officials, and NGOs, briefing the audience on the Unit's activities and preliminary sampling results. This was a critical aspect of stakeholder engagement, as there was intense interest in the actions the response was taking to protect public health and obtain data to support decisions about reopening beaches, harbors, and fisheries. The PHAU created reports summarizing the sampling results from Orange and San Diego counties, which were distributed to stakeholders through the LOFR.

PROVIDE SUPPORT FOR UC OBJECTIVES

Formation of the PHAU was proposed by OSPR, the LOFR, and public health agencies to support key UC objectives that the initial response organization was insufficient to address: ensure public safety; keep elected officials, stakeholders, and public abreast of health and safety information; and provide maximum support to stakeholder engagement. PHAU helped achieve these objectives by assessing public health risks from short-term exposures at beaches and surrounding areas and creating products to communicate sampling results within the response and to stakeholders.

PLAN DEVELOPMENT

The PHAU created the following UC-approved plans: Emergency Water and Sediment Quality Sampling and Analysis Plan, Data Use Plan, Source Sample Plan, Nearshore Seafood Safety Sampling and Analysis Plan, and Demobilization Plan. The Unit also advised on and provided approval for the Air Monitoring and Sampling and Environmental Sampling and Analysis Plans developed by the response contractor. The involvement of public health agencies in determining aspects of the plan such as sampling locations, sampling designs, and analytical methods ensured that the resulting data was appropriate for public health decision-making.

Recommendations from the Refugio Oil Spill Addressed in this Response

The concept of the PHAU post-dates the Refugio response. The following items are not Summary Recommendations from the Refugio AAR, but they represent improvements made by PHAU.

1) Incorporate agencies into Public Health Group. During the Refugio response, the Public Health Group was led by an RP contractor and the group was in the EU (*Refugio AAR: Section D*). The establishment of a PHAU improves on this ICS positioning by providing a separate space for public health planning and coordination, which is distinct from much of the EU's planning functions. Having the Unit staffed by public health specialists rather than an RP response contractor is more effective in providing appropriate and trustworthy information to stakeholders and the public, and addresses span of control issues.

2) Work to resolve mixed public health messaging. During the Refugio response, NGOs were concerned that volunteers' use of personal protective equipment on beaches created a perception among the public that the beaches were not safe, while the local health agency did not think that beaches posed a safety risk that required closure or signage (*Refugio AAR: Section F*). The PHAU brought together the expertise of local, state, and federal public health agencies to

improve coordination with the response. In addition, PHAU played an active role in messaging to NGOs and other stakeholders.

Successes and Best Practices

- Having public health agencies provide input to sampling and analysis plans yielded results that were appropriate for public health decisions. The local health officer was able to rely upon the data to issue an updated advisory that beaches were safe for recreational use.
- Participation of PHAU members in LOFR calls with agencies, elected officials, and NGOs
 provided transparency and assurance that the appropriate agencies were overseeing public
 health monitoring.
- In addition to making Seafood Safety determinations, OEHHA provided additional toxicologists to review water and sediment sampling data and provide consultation to county health agencies.
- PHAU organizational structure and objectives were established when the spill spread south to San Diego County, allowing for efficient incorporation of San Diego public health agencies into the Unit.
- The Air Subunit advised the UC when data showed there was no public health threat from exposures to air contaminants due to the spill, allowing the UC to re-allocate or demobilize resources dedicated to air monitoring and sampling.

Challenges and Recommendations

PHAU 1: PHAU was effective in supporting UC objectives and public health decision-making, but it should be implemented earlier. Because the incident was high-profile and posed potential health risks from exposures to air, beach water/sediment, and seafood, the Unit would have been most effective if established sooner. OSPR should facilitate this implementation by working with partner agencies to formalize PHAU in agency contingency plans.

PHAU 2: The PHAU was successful in coordinating the efforts of multiple agencies, but the Unit's novelty provides continued opportunities to build shared expectations among agencies. OSPR should evaluate conducting training sessions and outreach to local and state agencies to promote awareness of PHAU structure, objectives, and deliverables. OSPR should consider implementing the Unit at industry tabletop exercises to further develop Unit protocols and build a shared understanding of PHAU purpose and function.

PHAU 3: The organizational structures, capabilities, and practices of local public health agencies are variable, and state and federal agencies should be prepared to provide support. The US EPA Unit Leaders were able to leverage their productive working relationships with local agencies, and OEHHA and CDPH provided additional support after they were requested. OSPR should work with state public health agencies such as OEHHA, CDPH, and the California Air Resources Board to build capacity to provide PHAU leadership at the state level. Ideally, OSPR should identify state partners who can serve in the Unit Leader position in the event that the US EPA is not available.

Fisheries Closure

Objectives and Responsibilities

CDFW is required by Fish and Game Code Section 5654 to close affected waters to the take of all fish and shellfish within 24 hours of notification of an oil spill or discharge, unless OEHHA determines there is no threat to seafood safety.

If a closure remains in place after 48 hours, the CDFW Director is required to order expedited tests of fish and shellfish that would have been open for commercial, recreational, or subsistence purposes in the closed area if not for the closure. The Director shall communicate, to the extent feasible, with commercial and recreational fishing associations and subsistence fishing communities regarding the extent and duration of a closure, testing protocols, and findings.

This process was followed during the Pipeline P00457 incident response.

Incident Activities

CLOSURE BOUNDARIES

OEHHA & OSPR/CDFW jointly defined closure boundaries based on aerial and satellite observations and trajectory models of the oil-affected area. Based on updated information, the closure boundaries were expanded twice, ultimately spanning approximately 45 miles of coastline and 650 square miles offshore.

SAMPLE COLLECTION & LABORATORY ANALYSIS

OSPR, CDFW Marine Region, and OEHHA jointly developed a sampling and analysis plan to assess concentrations of oil spill-related chemicals in onshore and offshore seafood species from the impacted area. Mussels, finfish, and other invertebrate species were collected by hand, hook and line, trawl, trap, or dive. These sampling efforts were a collaboration between OSPR, CDFW Marine Region, OEHHA, contracted environmental consulting companies, and contracted local commercial fishermen. Samples were shipped via expedited shipping to an analytical laboratory for analysis.

FISHERIES RE-OPENING

Based on final analytical results, OEHHA recommended that CDFW rescind the fisheries closure order. CDFW lifted the closure on November 30, 2021. Fisheries closure signs were removed by the time of re-opening, and the enforcement vessel ceased operations offshore.

PUBLIC OUTREACH - RESPONSE TO QUESTIONS/INQUIRES, SIGNS

Fisheries closure signs were placed immediately after closure declaration and were supplemented with multiple-language signs and flyers with QR codes as the closure expanded and remained in place for over a month and a half. CDFW and OEHHA consistently responded to public inquiries via email, phone, etc. and participated in regular LOFR meetings with elected officials, agencies, and other stakeholders. CDFW Marine Region engaged with the fishing community. Fact sheets, press releases, and other online resources were made available with the assistance of the PIO.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Improve communication and outreach from OSPR and OEHHA to the public to reassure consumers when fisheries closures are lifted. Effective communication and public outreach

were coordinated with OEHHA, CDFW Marine Region, LOFR, PIO, and an OSPR Fisheries Closure email address. Flow charts and other custom graphics were prepared to clearly and concisely illustrate the process. Fisheries closure signage and messaging was produced in multiple languages to reflect the local population.

2) Develop Protocol for Seafood Sampling and Analysis to Support Fisheries Re-Opening Decisions Following Aquatic Oil Spills in California. This document was developed after Refugio and expedited the sampling process during the P00547 Incident.

3) Use contractor to manage sampling activities to avoid redirecting many CDFW staff. A contractor was hired to conduct the sampling efforts, reducing the significant CDFW staff burden recognized during the Refugio response; few state staff were needed in the field.

4) Record signage locations for easy removal after lifting of the closure. Locations of signs were recorded by wardens and volunteers to facilitate an efficient removal process.

Successes and Best Practices

- Two active Fisheries Closure Leads
- Early Marine Region involvement, knowledge, and messaging
- Use of commercial fleet for local knowledge and sampling support
- Sampling Plan template
- Prepared fact sheets, flowcharts, and online resources
- Contractors facilitated planning, coordination, and implementation of sampling plan
- Fisheries closure signs posted by wardens early on; follow-up flyers posted by volunteers with incident-specific QR codes that directed to supporting website

Challenges and Recommendations

FISH 1: Protocols, contracting mechanisms, and roles for OSPR vs Marine Region staff were not well-defined in advance which led to confusion and inefficiency. OSPR should engage with OEHHA and CDFW Marine Region to make the following improvements to streamline response:

- Update details in the Sampling Protocol. Determine new edible size limits, and include information related to use of baitfish. Identify mechanism(s) for most efficient use of local fishermen for collection. Add information related to data management and sharing. Develop guidance for Scientific Collection Permits.
- Pre-identify contractors for sampling efforts. Establish retainers where possible to secure sampling contractors and laboratories with expedited turn-around capabilities for samples. Develop Scope of Work template for contracted work. Consider any necessary contractor training.
- Create Job Aids to clarify roles and responsibilities for OSPR and Marine Region staff. Identify and train additional coordinators (1-2) and update/finalize FC Coordinator Taskbook (in progress) based on lessons learned.

FISH 2: OEHHA has dedicated staffing for fisheries closures, but CDFW currently does not. OSPR was required to divert staff from other critical response functions (NRDA and RTE) to carry out fisheries closure responsibilities. CDFW Marine Region staff were stretched as they played key roles in the fisheries closure; they are technical experts on current fisheries science, regulation and practices, and are primary liaison to commercial and recreational fishing communities. CDFW should consider 1-2 positions within CDFW to manage fisheries closures, to facilitate strong coordination among OEHHA, CDFW Marine Region, and OSPR. A dedicated staff in Marine Region would develop sampling protocols (above), pre-identify and train contractors (above), create job aids and taskbooks (above), conduct outreach to the fishing community during spill and non-spill times (below), design and participate in fisheries closure drills, and serve as a CDFW fisheries closure technical advisor within a UC for an oil spill. A new position should also be considered for OSPR to coordinate with Marine Region and support tasking above and serve as CDFW Fisheries Closure Unit Leader within a UC for an oil spill.

FISH 3: Public information templates and signage are insufficient. Develop signs that include locally relevant languages, and change messaging to include oil spill and seafood safety information. Develop standard instructions for volunteers posting and removing signage. Expand on FAQ and flowcharts that were developed to create documents that distribute information quickly to the public online.

FISH 4: Lack of statutory authority to enforce the closure was a challenge. Identify changes to Fish and Game Code §5654 to establish an ability to enforce fisheries closures. Address questions related to transit through the spill/closure area, recirculating tanks, baitfish, gear service intervals, and communication.

Objectives and Responsibilities

During water pollution incidents the Legal staff for OSPR will provide legal support to the SOSC and OSPR responding staff, Executive staff, investigative staff, and NRDA staff.

Incident Activities

During the P00547 Incident, at least one OSPR attorney was present at the ICP for most of the response and Legal staff provided advice and guidance from the OSPR Support Center in Sacramento. Legal staff continues to work on issues, particularly regarding the on-going criminal investigation and the NRDA case development, so information in this AAR covers actions during the response.

Some of the issues the Legal staff assisted with during the first few weeks included:

- Ensure statutory mandates for OSPR and the RP were being initiated and fulfilled.
- Assisted with drafting the fisheries closures and addressed issues related to the closures.
- Supported the SOSC, Deputy SOSC, and other OSPR incident staff.
- Coordinated with the OSPR criminal investigation team.
- Coordinated with the NRDA team.
- Briefed or coordinated with the CDFW Office of General Counsel, the Natural Resource Agency, and the Governor's Office.
- Researched and advised on issues to minimize potential legal exposure to OSPR.
- Reviewed UC agreements.
- Coordinated with allied local, state, and federal agencies.
- Reviewed press releases.
- Interpreted and advised on various agreements with agencies for applicability during response (e.g., hazardous waste storage, and decanting of oily water).
- Issued a litigation hold and coordinated document and data management.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Develop a draft data-sharing agreement for use among the Incident Commanders in the UC. The value of this document is to ensure that no party claims ownership of data or information generated during a spill, provide for where data is stored, and ensure sharing of all response data among all parties. OSPR developed a Data Collection Sharing Plan that was implemented very early in the P00547 Incident response and has been used at other responses since Refugio.

Successes and Best Practices

• Remote response by the Legal team via Microsoft Teams and Zoom was highly effective.

Challenges and Recommendations

LEGAL 1: Newer staff within the legal team had not yet experienced a spill of this magnitude. OSPR legal staff should regularly attend drills and exercises to facilitate efficient integration into response and NRDA activities.

Oil Recovery and Waste Management Operations

Objectives and Responsibilities

The Operations Section coordinated the response activities specific to mitigating and recovering the spilled oil in the environment. The Section established an on-water recovery group, an onland recovery group, and staging areas to achieve the UC's objectives during the response. The Section worked with the Planning Section to determine the best courses of action and assignments for each operational period for the oil recovery work crews.

OSPR often has a senior Oil Spill Prevention Specialist or Supervisor fill the Deputy Operations Chief position to be a liaison between the work crews and what the EU is relaying to the field. This allows for state input to the waste, decontamination, demobilization, and other plans developed by the cleanup contractors. Additionally, OSPR personnel oversee the quantification of recovered material and ensure proper disposal for each waste stream that is generated at an incident.

Incident Activities

For the P00547 Incident, OSPR filled the role as Deputy Operations Section Chief and assisted in assigning both on water activities as well as onshore activities to collect spilled material. Once the initial operations objectives were established, OSPR developed and implemented the Waste Management Plan and oversaw waste management and quantification of spilled material.

ON-WATER RECOVERY

Marine Spill Response Corporation (MSRC) conducted the on-water recovery operations as the RP's contracted oil spill response organization. On-water skimming operations utilized brush-type skimmers that are permanently mounted on several of the MSRC vessels that are staged in the Los Angeles/Long Beach area. These skimming vessels are also equipped with on-board storage for recovered oil. MSRC vessels took measures to contain free-floating oil on the water, and deployed boom to concentrate and corral the oil to assist in skimming operations.

ONSHORE RECOVERY

Beach crews organized into several divisions to work on specific tasks and areas. The RP and Patriot Environmental contracted with several companies to remove oil from the shore. These companies provided the work crews with the necessary training and personal protective equipment to work in the environment to collect and recover spilled material. Each beach crew was accompanied by a site supervisor, safety officer, and a cultural monitor. Each team's division supervisor provided direction and oversight to complete specific tasks to clean the affected areas as identified by the EU.

STAGING AREAS

Clean up contractors set up staging areas to accommodate work crews, collect oiled debris, and decontaminate equipment used in the response. For work crews, staging areas were set up at Huntington State Beach in Orange County and Del Mar fairgrounds in San Diego County. These areas provided space for work crew safety briefings and for a secure depository for the 20 cubic-yard bins containing oiled debris.

VESSEL DECONTAMINATION

On the day of the incident, an air show was taking place in Huntington Beach and privately owned vessels were contaminated by the spilled material. Decontamination stations were established in Long Beach, Huntington Harbor, and Newport Harbor to decontaminate these vessels. Response vessels and equipment were decontaminated at Ships Services in the Port of Los Angeles.

WASTE MANAGEMENT

Clean-up contractors separated recovered pollutant by waste stream type and location where the waste was initially removed from the environment. CTEH (a consulting firm) was contracted by the RP to sample and provide profiles for the various waste streams. Liquid waste was held in secure tanks for gauging to determine oil content and quantity prior to disposal. Recovered pollutants held in solids were placed in roll-off bins with tare weights. Solids were segregated, weighed, and categorized as sorbents, oily sand, debris, or contaminated personal protective equipment. Solids recovered from the waters of the state or adjacent shorelines were stored separately from those recovered elsewhere.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Develop a position in Operations Section to liaise with SCAT. The coordination between operations and SCAT improved significantly since the Refugio response. During the initial response, an operations representative was present at the SCAT briefings and, as the response continued, the SCAT briefings were virtual and enabled more engagement from operations.

Successes and Best Practices

- Staffed an OSPR representative in Operations to maintain operational awareness for briefings during LOFR calls and VIP visits.
- Worked with all aspects of operations for continuity between on water collection, on shore collection, vessel decontamination and waste management.

Challenges and Recommendations

OPS 1: The use of a third-party company to assist in the organization and tracking of waste documentation is beneficial to the overall quantification process in large incidents where sampling, bin tracking and manifest documentation is critical to accurate accounting of all waste streams. OSPR should encourage regulated companies with contingency plans on file to develop options for contracting with a third party that can efficiently manage the waste process in the event of a large incident where internal resources may be directed to other response priorities.

OPS 2: Access to offsite vessel decontamination stations and associated guidance for the public was delayed. OSPR should evaluate the use of a rapid contracting mechanism between the RP and offsite decontamination stations if vessel decontamination is required in a response, and develop messaging for the public regarding boat cleaning that can be shared timely.

Wildlife Branch

Objectives and Responsibilities

The Wildlife Branch, within the Operations Section, is responsible for the best achievable capture and care of wildlife impacted by an oil spill and/or the spill response. These activities are guided by the Wildlife Response Plan for Oil Spills in California (an appendix of the Region IX Contingency Plan). The OWCN, managed by UC Davis and staffed by trained responders from OWCN member organizations, provides staffing for most Wildlife Branch activities (with the exception of the Wildlife Reconnaissance Group).

Incident Activities

WILDLIFE RECONNAISSANCE

The Wildlife Reconnaissance Group coordinated aerial, on-water, and land-based surveys for oiled wildlife, generally outside the hot zone where the Recovery Teams were already present. The Wildlife Reconnaissance Group also managed logistics of the Oiled Wildlife Hotline.

WILDLIFE RECOVERY

The Wildlife Recovery Group managed teams that responded to hotline calls and conducted targeted and general surveys throughout the impacted area (hot zone) in Los Angeles, Orange, and San Diego Counties (from San Pedro to south of Carlsbad) to locate and recover impacted wildlife, transporting them to the Field Stabilization staging area or directly to care facilities.

FIELD STABILIZATION

The Field Stabilization Group was responsible for initial critical veterinary care of wildlife prior to transport to the Primary Care Facility. Field stabilization was based at the Wetlands and Wildlife Care Center in Huntington Beach (a member of the OWCN), which was also the location of the Recovery staging area.

WILDLIFE CARE & PROCESSING

The Wildlife Care & Processing Group processed (collected data on and collected evidence from) impacted wildlife and worked to rehabilitate live animals by providing best achievable veterinary care and animal husbandry, with a goal of releasing as many healthy animals as possible back to the environment. The Los Angeles Oiled Bird Care & Education Center in San Pedro was used as the Primary Care Facility for birds, and the Marine Mammal Care Center Los Angeles, and Pacific Marine Mammal Centers were used to process/necropsy dead marine mammals.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) OSPR should fill the role of Reconnaissance Group Supervisor. Since Refugio, OSPR has established a Wildlife Assessment Coordinator position, with a dedicated response role of Wildlife Reconnaissance Group Supervisor, utilized during the P00547 Incident.

2) OWCN should develop more comprehensive plans to ensure an on-scene core staff Wildlife Recovery Group Supervisor and Field Stabilization Group Supervisor and ensure that response supply caches are available on day one of a spill. For the P00547 Incident, OWCN had a Deputy Wildlife Branch Director, Wildlife Recovery Group Supervisor, Field Stabilization Group Supervisor, and a Care and Processing Group Supervisor (as well as Recovery Team personnel and two fixed care facilities) on-site and operating on day one of the response.

Successes and Best Practices

- OSPR and OWCN began planning for mobilization upon notification and, when the decision was made to activate a Wildlife Branch, the resources and personnel were available and prepared to deploy.
- Through drills and other spills, OSPR and OWCN have developed and trained for spill roles and responsibilities early in a response. Having a thorough suite of document templates and protocols for reconnaissance, recovery, field stabilization, and care significantly expedited the development of the Wildlife Branch.
- Having multiple fixed care facilities in the area with trained staff as well as OWCN core staff on-site allowed for the highest-quality care for wildlife.
- This response was the first major stress test for the Wildlife Recovery Application, a custom app jointly developed and maintained by OWCN and OSPR, and the separate (but linked) Oiled Wildlife Rehabilitation Medical Database (OWRMD). Use of these applications greatly expedited and organized data on each individual animal recovered and facilitated the rapid dissemination of data.
- Frequent communications by text and telephone, and in combination with data flow from associated applications, allowed for a high level of coordination amongst Wildlife Branch staff in addressing issues during the day and for planning activities for the next day or operational period.
- The Wildlife Branch rapidly deployed highly qualified personnel and experienced senior leadership in key roles. The dedicated OWCN Staffing Coordinator was a key function in this regard. High-quality staffing in critical roles provided technical excellence and effective decision-making, as well as the ability to support engagement with the UC and other responders.

Challenges and Recommendations

WILDLIFE 1: Although staffing is identified as a success above, Wildlife Branch personnel experienced some exhaustion/burn-out due to limited staff to rotate in shifts. Additionally, if another significant event had occurred at the same time, trained Wildlife Branch staff would not have been available. Continued emphasis on additional staffing and training for key OWCN and OSPR roles is needed. This includes the potential need for an OSPR Wildlife Coordinator position that could be dedicated to the Wildlife Branch Director role during response, and during non-spill times, manage updates of the Wildlife Response Plan for California, and coordinate with OWCN for training and development.

WILDLIFE 2: The Wildlife Recovery Application was an effective new tool for the Wildlife Branch (and others). However, there were technical issues with data transfer and compilation, file-naming

conventions, and other functions. OSPR should address technical issues and refine protocols, with input from wildlife data stakeholders.

WILDLIFE 3: The OWRMD application was an excellent tool for documenting processing and veterinary care for individual animals, tracking the progress of animals in the facility, and reporting timely data to the Situation Unit. This online application has been developed under contract for the OWCN over the past 5 years using budgetary cost-savings. However, due to OWCN's funding constraints, future support for OWRMD development is unavailable. Increased programmatic funding, as well as access to technical support staff, are needed to ensure this critical tool continues to operate effectively.

WILDLIFE 4: Shore-based reconnaissance surveys occurred but the response may have been more effective with broader coverage of some impacted areas. OSPR should develop protocols and job aids to expedite use of contracted local professionals for reconnaissance in future spills.

Objectives and Responsibilities

Environmental Unit Leader (EUL) and Assistant EUL positions were both staffed by OSPR. The Environmental Unit (EU) was primarily comprised of staff from OSPR, NOAA, State Department of Parks and Recreation, and on a more limited basis with staff from Santa Ana and San Diego Regional Water Boards and U.S. Fish & Wildlife Service (USFWS).

In accordance with the USCG Incident Management Handbook (USCG, 2014), for oil spills in coastal areas, the EU within the Planning Section is responsible for environmental matters associated with the response, including strategic assessment, modeling, surveillance, and environmental monitoring, and permitting. The EU prepares environmental data for the Situation Unit.

Technical Specialists (THSPs) frequently assigned to EU include sampling, response technologies, trajectory analysis, weather forecast, resources at risk, shoreline cleanup assessment, historical/ cultural resources, and waste disposal. The EU's primary responsibilities include, but are not limited to:

- Identify sensitive areas and recommend response priorities.
- Determine the extent, fate, and effects of contamination.
- Monitor the environmental consequences of response actions.
- Implement the Shoreline Cleanup Assessment Technique (SCAT) to develop Shoreline Cleanup and Assessment Plans.
- Identify the need for and obtain permits, consultations, and other authorizations, including Endangered Species Act provisions.
- Historical/Cultural Resources THSP, based on consultation with the FOSC, identifies and develops plans for protection of affected historical/cultural resources.
- Develop a plan for collecting, transporting, and analyzing samples.

Incident Activities

PROTECT SENSITIVE RESOURCES

Efforts by the EU to identify sensitive areas and recommend response priorities were initiated early in response with development of an ICS Form 232 Resources at Risk which lists Area Contingency Plan (ACP) environmental sensitive sites near the release location for protection and the priority for their protection. An initial ICS Form 232 was developed by the OSPR EUL and provided to the Oil Spill Response Organizations for implementation of ACP 5 protection strategies. Subsequent versions of the ICS Form 232 added additional sites for protection.

As part of Resources at Risk assessment under EU, special status species (e.g., threatened, endangered, species of special concern) are identified through the use of natural resource databases including the California Natural Diversity Database and response plans including the coastal ACPs. Efforts are also made to identify the need for and obtain permits, consultations, and

other authorizations, including Endangered Species Act provisions in conjunction with trustees such as USFWS under EU.

Within EU, an HPS or Historical/Cultural Resources THSP, based on consultation with the FOSC, identifies and develops plans for protection of affected historical/cultural resources. Specifically, the HPS reviews SCAT cleanup recommendations and signs off to verify proposed cleanup action is unlikely to impact historical/cultural resources.

ASSESS OILING AND MAKE CLEANUP RECOMMENDATIONS

Efforts by the EU to determine the extent, fate, and effects of contamination primarily involved collection of tarball samples from coastal areas and submittal of prioritized samples for chemical fingerprinting analysis at the OSPR Petroleum Chemistry Lab (PCL). To develop a plan for collecting, transporting, and analyzing samples, EU staff worked closely with the OSPR PCL to identify which personnel were available to collect samples (e.g., SCAT Teams), transport samples (e.g., Sample Coordinators from PCL), and analyze samples (i.e., chemists from PCL). These efforts were guided by a tarball tracking and prioritization spreadsheet and multiple response plans (e.g., Tarball Sampling and Analysis Prioritization Plan) to determine the extent and fate of contamination related to the P00547 Incident release. Determination of the effects of contamination were primarily managed through the NRDA function.

As mentioned earlier, the SCAT process assesses shoreline oiling, makes cleanup recommendations, and evaluates the status of cleanup against pre-determined cleanup endpoints over time to make sure that cleanup methods are effective and do not cause more harm than leaving the oil place. This process enables SCAT Teams to monitor the environmental consequences of response actions.

SCAT efforts for this response follow the national Shoreline Assessment Manual (NOAA 2013). The first task is to develop Shoreline Cleanup and Assessment Plans, primarily consisting of segmenting shorelines by Operational Division and coordination by an OSPR SCAT Coordinator who schedules SCAT Teams and compiles data on progress of shoreline segment cleanup, all the way through to segment signoff.

PROVIDE RESPONSE UPDATES FOR BRIEFINGS & OUTREACH

Requests for information from the response PIO were addressed by EU for media outreach to stakeholders and the public. Regular (daily) updates were provided by EU to Operations and LOFR for stakeholder outreach on the following tasking for the duration of the response:

- Status of deployment of protective booming strategies for ACP environmental sensitive sites, including dates of demobilization.
- Status of SCAT surveys for 107 shoreline segments in Orange and San Diego Counties, including survey and inspection dates and results and signoff by SCAT/Sign-off Field Teams and UC.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) For large spills, consider using multiple Assistant EULs to support EUL. For this response, EU was under-staffed in the ICP due to COVID restrictions, use of virtual response platforms, and extent of response area. Typically, the RP provides at least one Assistant EUL.

2) When a spill occurs in an area of natural seep activity, the EU should form sampling teams with representatives from the state, federal government, and RP, and create a preapproved sampling plan to support distinguishing spill from natural seep oil. SCAT Teams were utilized to collect tarballs from each Operational Division within the Response Area. Samples were prioritized for fingerprinting analysis based on multiple plans generated by EU, OSPR PCL, and USCG representatives to determine if samples were associated with the P00547 Incident. These plans can be used for similar spills in future.

3) Consider developing pre-approved clean-up endpoints for areas with known significant natural seepage or use background as the endpoint. The cleanup endpoints document from the P00547 Incident was a modified version of Refugio Cleanup Endpoints document, although background tarball levels in Orange and San Diego counties are far less than for Santa Barbara and Ventura counties.

4) OSPR should work with NOAA to update shoreline cleanup methods and analyses for different habitat types and consider using Shoreline Treatment Recommendations Form (or similar form) per habitat type versus per segment. For the P00547 Incident, there were only a few shoreline habitat types within the 107 beach segments, most of which relied on use of standard cleanup methods (e.g. tarball collection on sandy beaches).

Successes and Best Practices

- OSPR should utilize tarball plans and tracking spreadsheets developed for the P00547 Incident in future spills involving offshore oil and tarballs depositing on coastal shorelines. These turned out to be valuable tools for coordinating sampling and prioritizing analysis.
- OSPR used SCATalogue successfully for the first time in support of a large response and should consider expanding these capabilities.
- Activation of the PHAU to conduct large-scale sampling and analysis for determination of public health exposures helped to limit the necessity for sampling to originate in the EU which was under-staffed and over-tasked.

Challenges and Recommendations

EU 1: Outdated iPads used for SCATalogue slowed down the SCAT data collection and transfer process and resulted in technological challenges. Additionally, software support and development issues were compounded by staff training gaps. OSPR should acquire new iPads for both SCATalogue and drone flights to keep up with software upgrades and data management. OSPR should also develop a structured SCATalogue training manual and prioritize continuous SCATalogue program maintenance.

EU 2: EU needed multiple trained personnel to back up regional Field Response Team personnel, as some staff had to work more than 30 consecutive days to cover EU and SCAT team rotations. OSPR should identify additional staff dedicated to back up EU positions and SCAT operations.

EU 3: OSPR addressed expectations by other agencies that were not based on ICS framework or oil spill response guidance. OSPR should initiate inter-agency training and exercises to test specific functions of the response in a focused manner to address authorities, expectations, and interactions through the EU and/or LOFR. This includes interagency, elected official, and stakeholder meetings and coordination of SCAT/Sign-Off Field Team inspections.

Applied Response Technology Policy Implementation

Objectives and Responsibilities

OSPR reviewed two Applied Response Technology (ART) oil spill cleanup agent (OSCA) products, a dispersant and a surface-washing agent, for applicability to this response, consistent with the policies of the Regional Response Team (RRT) IX and the additional authorities granted to the OSPR Administrator. OSPR's ART Lead Technical Specialist/OSCA Licensing Representative conducted the reviews and approvals of the dispersant and surface washing agent, on behalf of the RRT IX and the OSPR Administrator.

Incident Activities

DISPERSANT REVIEW

OSPR's ART Lead Technical Specialist/Licensing Representative also holds a seat on the RRT IX as an OSPR state alternate and authored the 2019 RRT IX Dispersant Use Plan (DUP) for California. On the first day of the spill, it was determined that dispersant use did not meet the use criteria specified under the DUP, as the oil type was considered too heavy to be chemically dispersible, and dispersant use is not allowed by the RRT IX on any sheens or tar balls associated with a surface oil slick. The relevant pages of the DUP were completed and posted under the RRT Channel on the incident's Microsoft Teams site and routed separately to the incident-specific members of the RRT.

CYTOSOL REVIEW AND APPROVAL

At the request of OSPR staff working within Operations, the use of the surface-washing agent "Cytosol" was approved by the EPA Co-Chair of the RRT and the OSPR Administrator for use in the decontamination of commercial and recreational vessels hulls and other response vessel equipment (e.g., boom). OSPR's ART Lead Technical Specialist worked with OSPR staff within Operations to develop the Cytosol work plan and facilitate the EPA and OSPR Administrator approvals. The approvals were subsequently distributed to Operations and posted under the RRT Channel on the Amplify Energy RRT Channel on the incident's Microsoft Teams site.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) The OSPR ART Specialist and other staff should deliver training and outreach for RRT IX members. This is an on-going effort, and OSPR did not encounter any obstacles communicating with the RRT IX members in this response. Aside from the Cytosol use approvals, there were no field tests of OSCA products that required EPA engagement, thus there was little need for extensive additional outreach or briefings to RRT members.

Successes and Best Practices

- There were no miscommunications regarding the dispersant review. There was reportedly a belief from some in the public that dispersant had been used, but this was corrected via LOFR and PIO in their briefing materials.
- Both the EPA co-chair of the RRT IX and the OSPR Administrator issued timely approvals to the Cytosol use request for vessel and equipment decontamination.

Challenges and Recommendations

ART 1: There was an early miscommunication regarding the use of an unlicensed cleanup agent for vessel cleaning. This was corrected by instead working through the process to use Cytosol as an approved and licensed cleanup agent. OSPR should train staff periodically on procedures for the appropriate selection and approvals of licensed OSCAs, and use drills to practice proper execution.

ART 2: ART vendors self-deployed to the response without seeking appropriate approvals and were provided relevant information and feedback by the UC. OSPR should continue educational communications with RTE vendors to avoid challenging interactions in the future.

Response Technology Tracking and Evaluation

Objectives and Responsibilities

A Response Technology Evaluation (RTE) unit was established under the Environmental Unit. The RTE tracked and responded to email offers of products (OSCAs, mechanical containment and removal equipment, oil sensors) and a few services. The RTE Unit was staffed by the OSPR ART Lead Technical Specialist (working remotely), USCG District 11 staff (working on site), and later by USCG Headquarters staff (working remotely).

Incident Activities

RESPONSE TECHNOLOGY REVIEW

OSPR and USCG District 11 fielded all offers related to use of various OSCAs, mechanical technologies, oil sensing systems, and a few goods and services. All offers were recorded on an Excel spreadsheet and all email communications were retained on the RTE Channel of the incident's Microsoft Teams site, and by the OSPR ART Lead Technical Specialist. Some of the products or technologies were flagged for future follow-up (e.g., OSCA licensing) but none of the technologies were determined to be operationally necessary for this response. The RTE Unit processed a total of 29 OSCA products (inclusive of dispersant consideration and Cytosol approvals), 14 mechanical technologies, 4 sensor systems, and 8 offers of services or miscellaneous cleanup products.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Responding agencies should consider adopting the RTE model developed following the Deepwater Horizon spill response. Although the large-scale RTE model from Deepwater Horizon was not employed for this response, an RTE unit was established and the products and technologies offered were managed by OSPR and USCG using spreadsheets, email, and frequent OSPR-USCG communications.

Successes and Best Practices

- The two assigned OSPR and USCG personnel worked well together. It was very helpful to have a USCG District 11 representative able to meet people in the field.
- Establishing the RTE Unit under the EU was a positive addition to the organization chart.
- Establishing an RTE email inbox was helpful.

Challenges and Recommendations

RTE 1: Despite efforts of OSPR, USCG, and Bureau of Safety and Environmental Enforcement to identify a unified approach to the identification and vetting of technologies both in advance of and during an active response, there is still no identified process for the structured review of technologies during a California marine oil spill response. The following actions should be taken to facilitate a unified approach to RTE.

- Request that USCG Headquarters assign a Marine Environmental Response representative to the RTE Team as soon as possible after start of spill to supplement the current 1 USCG (in Operations) and 1 OSPR (in Planning) make-up of the team.
- Schedule RTE short daily meeting with Operations Section to understand future needs and provide list of available products that have been vetted.
- Establish an RTE spill-specific email account that can be accessed by all team members.
- Add RTE to the spill website and specify types of products the spill may need and include the Technology Intake Form and RTE email address.
- Limit the types of products reviewed by RTE to mechanical and OSCAs, and refer ocean sensors to NOAA and imaging systems to OSPR GIS. Develop process for routing offers of goods and services and research requests.

Geographic Information System (GIS) Support

Objectives and Responsibilities

The Geographic Information System (GIS) Unit was included as part of the Situation Unit. The primary responsibilities of the GIS Unit were to provide data management for the SCAT Coordinator, data management for the Wildlife Branch, and other maps and displays as requested.

Incident Activities

SCAT DATA PROCESSING AND MAPS

The GIS unit processed incoming field data from the SCAT teams, made maps of each survey, ensured data quality control with SCAT team lead and SCAT coordinator, and uploaded these data to NOAA's Emergency Response Management Application (ERMA) and the ERMA dashboard. Other SCAT products were Daily Oiling numbers and maps and Cumulative Oiling maps.

WILDLIFE RECOVERY DATA PROCESSING AND MAPS

OSPR GIS received the Wildlife Recovery data from OWCN, processed it, made a daily map of the data, ensured data quality control with the Wildlife Branch, and uploaded the daily Wildlife Recoveries and Operations data into ERMA.

ADDITIONAL SUPPORT FOR THE RESPONSE

In addition to the GIS Unit's primary functions of processing data from SCAT teams and the Wildlife Branch, it supported the mapping needs and data management for the entire response effort including but not limited to Operations, the JIC, Cultural Monitors, LOFR, and the UC. Examples include overflight maps for navigation and results, process and map remote sensing data, ERMA maintenance, maps for cultural monitors, and graphics for reports and navigation.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Transcribing paper forms for manual entry into a database is very time consuming, labor-intensive, and cumbersome. Since Refugio, OSPR developed and implemented a field app, SCATalogue, that expedites data entry and data processing components reducing the SCAT field data turn-around time from 24 hours at Refugio, to 2-3 hours at the P00547 Incident. This allowed the SCAT Team Leader and SCAT Team Coordinator to quality control the data the same day as the survey and to direct subsequent cleanup operations more quickly.

2) A data management plan should be presented to the Unified Command, agreed **upon**, and **implemented within the first few days of the response.** OSPR developed a Data Collection Sharing Plan that was implemented very early in the P00547 Incident and has been used at other responses since Refugio.

3) OSPR should develop GIS specifications for electrical and internet needs at an ICP.

The RP for the P00547 Incident provided sufficient internet and electrical throughout the various ICPs for all responders.

Successes and Best Practices

- OSPR GIS field iPad applications worked well. Field data was received in a timely manner.
- Multiple agency GIS unit was able to share in the data processing and management to some extent.
- Data Sharing Agreement worked well. All parties were able to have all data through the incident's Microsoft Teams site.
- Due to the flexibility of OSPR GIS and the Wildlife Branch, we were able to achieve an easier and less work-intensive process for the Wildlife Recovery data and maps.
- OSPR GIS team worked together very well.

Challenges and Recommendations

GIS 1: OSPR GIS had three vacant positions at the time of the spill and was short-staffed during the P00547 Incident. Due to CDFW network sharing, OSPR was unable to engage GIS staff from other agencies to help process SCAT data. Even non-OSPR CDFW GIS staff were unable to do the SCAT processing independently. OSPR should improve SCATalogue processing for use with modern equipment and establish data sharing and processing space that can incorporate external GIS professionals during spill response.

GIS 2: Wildlife Recovery map needs had been changed from a map for each survey to a daily map and the Wildlife Recovery app. Processing protocols must be rewritten for a daily map rather than mapping each survey and additional training should be provided for staff. The app could also be simplified and tested using more modern hardware.

GIS 3: There were challenges establishing a multi-agency GIS unit. OSPR should coordinate drills with external partners on spills (e.g., NOAA and contractors) and all GIS analysts coming to a spill should be well versed in ICS and chain-of-command. OSPR should consider a GIS Strike Team as a formal ICS functional group.

Volunteer Coordinator/Unit

Objectives and Responsibilities

The Volunteer Coordinator (VC) is a technical specialist to the UC that assesses volunteer interest and makes recommendations as to whether volunteers are needed and could be deployed safely. If volunteer interests become significant, a Volunteer Unit (VU) will be established within the Planning Section, and the VC becomes the Volunteer Unit Leader (VUL). The VU includes various VCs from local and state agencies. It is recommended that the VC and VUL positions be filled by state or local government representatives that have the authority to manage volunteers. The VU responsibilities include:

- Coordinate with the JIC on volunteer messaging such as approved press releases and volunteer hotlines/websites and participate in Community Open House events.
- Coordinate with the EU, Operations Section, and SOFR to determine if and how to utilize volunteers, recommend suitable volunteer tasking and deployment location(s), and any training requirements.
- Develop a Volunteer Use Plan (VUP) which includes volunteer Site-Specific Safety Plan, volunteer assignment(s), training center location(s), field deployment location(s), and identify resources needed.
- Provide volunteer status updates and raise related issues to the UC.
- Communicate with the LOFR and federal, state, local agencies, and NGOs to ensure volunteer information is provided in a timely manner.

To better understand how oil spill volunteers may be utilized in response activities, it is important to recognize the differences between the types of volunteers and why certain volunteer organizations are deployed first.

- **OWCN Pre-trained Volunteers** are utilized during an oil spill to assist with impacted wildlife. The OWCN maintains a cadre of pre-trained volunteers that are actively linked to one of their network member organizations. Pre-trained volunteers receive oiled animal training (many are 24-hour HAZWOPER certified), attend OWCN drills and exercises, and are ICS trained.
- Affiliated Volunteers are volunteer organizations that have a pre-existing arrangement with a governmental agency. In most cases, affiliated volunteers are trained for a specific role or function prior to a disaster. During an oil spill, pre-identified affiliated organizations are placed on standby until needed. These organizations include but are not limited to: CDFW-Natural Resource Volunteers (NRVs), California Conversation Corp, and Community Emergency Response Teams (CERT).
- **Community Volunteers** are concerned citizens who want to help during an oil spill. Typically, these volunteers are not associated with an existing emergency response system. If the UC approves the use of community volunteers, a volunteer management system must be established to address volunteer registration and screening; site-specific safety training; volunteer task(s); deployment location(s); and liability considerations.

Incident Activities

Volunteer operations for the P00547 Incident began on October 3, 2021. OSPR's VC activated the Volunteer Hotline, placed CDFW NRVs on standby, made a recommendation to the UC to utilize affiliated volunteers to post/distribute public notice flyers in the impacted areas, and provided a volunteer update to local and elected officials through the LOFR meetings and updates. It was determined early in the response that local government would not be able to assist with volunteer management. OSPR's VC became the VUL and the VU was established to include staff from OSPR and California Volunteers, within the Office of the Governor.

USE OF AFFILIATED VOLUNTEERS

The VU developed the Volunteer Use Plan (VUP) and UC approved and incorporated the VUP into the Incident Action Plan. CDFW NRVs and CERT members from Huntington Beach and Newport Beach served as affiliated volunteers and completed the following tasks:

- CDFW-NRVPs supported wildlife operations, distributed public notice flyers, and posted fisheries closure signs.
- CERT members from Huntington Beach and Newport Beach assisted with check-in/out during volunteer deployments.

USE OF COMMUNITY VOLUNTEERS

UC considerations on the use of community volunteers included the following:

- Safety and liability concerns
- Deployment sites contain only weathered tar balls (completion of gross oil removal)
- Volunteer operations do not overlap with oil spill response personnel

Due to the significant public interest, the UC authorized OSPR to expand volunteer operations to include tar ball cleanup opportunities for community volunteers.

On October 6 the VUL uploaded OSPR's online volunteer registration form to the volunteer page on CalSpillWatch.com. The information was shared with local agencies, elected officials, NGOs, and media outlets for public dissemination. Within days, OSPR received over 10,000 registered volunteers through its online portal. This was the first time OSPR utilized its online volunteer registration tool.

The VU managed all volunteer registration and screening, conducted health and safety trainings (conducted virtually due to COVID), ordered all necessary resources and equipment, and coordinated with the EUL to select appropriate tar ball cleanup sites for volunteer deployments. This coordination ensured that registered volunteer deployments did not interfere with field operations, cultural sites, or animal nesting areas.

The VU executed four tar ball beach cleanup deployments during the month of October that utilized 141 volunteers. The VU and CERT members provided for volunteer set-up and signin/out, and CERT members filled ICS Strike Team Leader positions. The volunteers were provided Personal Protective Equipment and all other necessary equipment to complete their tasks. OSPR ensured volunteer decontamination was conducted as per California Occupational Safety and Health Administration requirements and oiled equipment was disposed of properly. OSPR Wildlife Officers provided security for staff and volunteers. Volunteer debriefs were provided, thank you notes distributed, and on December 12, 2021, OSPR, OWCN, and California Volunteers hosted a virtual Volunteer Appreciation Day.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Volunteer messaging and an outreach plan should be incorporated into the Non-Wildlife Volunteer Plan within the Area Contingency Plans. The Non-Wildlife Volunteer Plan was revised to include additional information, resources, and procedures and incorporated lessons learned from Refugio. The updated version of the plan was utilized during this response.

2) OSPR should expand its capacity for managing volunteers during response. Additional staff should be trained to fill critical roles such as VUL, VC, and positions in support of these roles. After Refugio, OSPR developed an online portal to efficiently register volunteers and it was activated for this response. OSPR continues to expand the number of staff trained to serve within the VU. During this response, four OSPR staff served within the Unit in rotation.

Successes and Best Practices

- The first-time volunteer trainings were conducted virtually due to COVID restrictions.
- Successful use of affiliated local volunteer organizations, i.e., CERT.
- OSPR's online Volunteer Registration Portal was an excellent tool for registering members of the public who wanted to assist with the response.
- In addition to opportunities offered through the response, the VU worked with LOFR to distribute information to all 10,000 that registered on opportunities with local NGOs.
- VU staff rotations should be reasonably minimized for continuity of operations.

Challenges and Recommendations

VU 1: The volunteer hotline number was not included in the initial press releases, so the wildlife hotline was overwhelmed by the public looking for volunteer information. OSPR should ensure that the volunteer hotline number is included with the initial press release or at the same time the wildlife hotline is activated. It is also recommended that the JIC establish a general information phone number or website that can be activated during the initial response.

VU 2: Some agency staffing that were assigned to the VU lacked ICS experience and training. To improve spill preparedness, OSPR should coordinate with volunteer agencies to support participation in spill response training, including drills and exercises.

VU 3: Local NGOs often have volunteers that could be potentially utilized during a response. OSPR should evaluate coordinating with NGOs and local governments to expand numbers of affiliated volunteers prior to an incident.

Documentation

Objectives and Responsibilities

The Documentation Unit (DOCS) is responsible for preserving all documents created at the incident while also ensuring information transparency among all parties within UC. The hybrid inperson/virtual nature of the P00547 Incident response posed unique challenges for DOCS as the Unit had to manage physical documents as well as documents posted to Microsoft Teams. The USCG served as Documentation Unit Leader (DOCL) while OSPR staff served in supporting roles within the Unit.

Incident Activities

COLLECTED ALL DATA RELATING TO THE INCIDENT

It is critical that responding agencies collect all data related to the incident for historical purposes and possible future litigation. DOCS completed the following to ensure that all information was collected:

- Identified how and what kinds of documents were being collected.
- Set up a system to collect hard copy and electronic files.
- To prevent accidental disposal of incident documentation, bins were labeled for sorting and placed in each unit's workspace.
- Limited copying ability to DOCS to ensure original copies were secured.
- Announced documentation policies at meetings to ensure all responder awareness.
- Established an email address for responders to submit all documentation and printing requests.

ESTABLISHED DOCUMENTATION FILING SYSTEM

A locking file cabinet was secured and one of the drawers was used for sorting and storing the documents. DOCS followed the USCG's comprehensive documentation management system which made it efficient to search for a specific document when requested. All documents were collected and filed based on form number and/or activity and were reviewed for accuracy and completeness. To ensure security of the files, the cabinet was locked and secured anytime DOCS personnel were away from the Unit.

IAP DEVELOPMENT

DOCS was responsible for collecting all plans and forms generated in the IAP. The Unit ensured all signatures were present, reviewed documents for accuracy, and compiled the final version for distribution.

Recommendations from the Refugio Oil Spill Addressed in this Response

The Refugio AAR did not identify any specific recommendations related to DOCS. However, OSPR continues to train additional staff to serve within DOCS and evaluate current processes to improve efficiency.

Successes and Best Practices

- Early deployment of in-person OSPR DOCS staff was critical to the success of the Unit.
- The USCG's comprehensive documentation management system made it efficient to search for a specific physical document when requested.

Challenges and Recommendations

DOCS 1: Negotiating DOCS roles and responsibilities amongst the various members (federal, state, RP) consistently presents challenges due to lack of RP understanding of federal and state requirements. More exercises should test DOCS so OSPR and federal partners can discuss documentation policies with plan holders prior to responses. It would also be helpful for UC members to outline DOCS leadership and roles so the decision is communicated through Command.

DOCS 2: DOCS experienced delays in receiving functioning equipment which created a significant backlog and frustration from responders. While some equipment in OSPR go-kits were helpful, these units were insufficient to serve the needs of the response. OSPR should acquire equipment in sufficient number to ensure DOCS remains functional, even with technical malfunctions. When ICPs are relocated, specific attention should be aimed at ensuring all equipment is operational prior to other units relocating to the new site.

DOCS 3: Despite best efforts to communicate documentation policies, DOCS staff were regularly required to remind responders of the policies to ensure compliance. OSPR should develop standardized templates that can be posted early in the response in every unit to provide reminders of documentation policies and develop protocols. Additionally, a clear documentation management process that supports a hybrid in-person/virtual response is essential, particularly for documents that require UC approval, along with a centralized repository for virtual and hard-copy files.

Objectives and Responsibilities

The goal of the Logistics Section (LOGS) is to provide the necessary services and support to the responding personnel to aid in the success of response. Although the primary focus is serving OSPR staff, as time and workloads permit, the scope of work is expanded to assist the incident LOGS Section. This is especially true during the first week of a major response. The primary responsibilities of LOGS is to fulfill the needs for facilities (ICP, operations, and staging areas), resource requisition, lodging, food, transportation, and communication.

For the P00547 Incident, OSPR staff served as the State Logistics Section Chief (LSC), working closely with the RP and USCG and had staff working in the ICP and virtually. Key activities for this response included daily lodging coordination for OSPR response personnel; assisting with other travel issues; working with RP to procure resources needed for the operation of the response; procuring items related to the investigation; and briefing incident Section Chief, SOSC, OSPR Executive, and other general staff of significant events and issues related to LOGS.

Incident Activities

LODGING

From the initial notification and activation of the OSPR LOGS unit, lodging was a major task. Requests for lodging were received immediately as staff began deploying to the response scene. Early in the response, OSPR LOGS secured a 20-room block at a Long Beach hotel within walking distance to the ICP. On day four, at the recommendation of the OSPR SOFR, a second room block was secured in Newport Beach for those assessing shoreline impacts. On October 11, the ICP relocated to Newport Beach and all responders were moved to the Newport Beach hotel. A third, and final hotel was secured on October 31 for responders working in the San Diego/Del Mar area.

OSPR LOGS was responsible for providing lodging for approximately 22 responders per night. That number fluctuated, with a peak night of 39 responders. Throughout the spill, lodging was provided for 74 responders, occupying four hotels within three cities, for a total of 633 room nights. All rooms were procured with the Citibank Meeting Planner Account which alleviated a tremendous financial burden for individual responders completing multiple deployments. Except for two unique cases, all lodging was procured at the State of California maximum allowable rate for the respective county in which the lodging was procured.

RESOURCE REQUISITION PROCESS

The RP had a set requisition process in place from the beginning of the response. This process worked well and was able to accommodate most of the incident needs. As OSPR responding staff began submitting resource requests, OSPR LOGS provided guidance and assisted them in following the existing process. However, at the request of the RP, OSPR LOGS processed requests for the Volunteer Unit and Fisheries Closure. Additionally, OSPR LOGS handled all requests from Investigations. The range of OSPR LOGS requisitions varied greatly for this response: multilingual fisheries closure signs (to be posted on beaches and in storefront windows); kitty litter scoopers

(volunteer beach cleanup); over the counter COVID testing kits; USB flash drives; and a portable Bluetooth speaker (used by Investigation for conference calls).

MISC. TRAVEL ISSUES

OSPR LOGS responded to various issues from responding staff who had trouble securing travel through the State's Concur system. Working closely with Business Management Branch (BMB) staff, LOGS was able to resolve the issues and obtained travel arrangements for staff. In most cases, user profiles required an update to a new approver (Supervisor).

Many responders' deployments were extended further than originally planned. As a result, travel arrangements (rental cars, flights) needed to be revised. Local rental car companies would not revise reservations unless they obtained verbal approval from a managing travel coordinator. OSPR LOGS fulfilled that role during the response period and successfully assisted responders with revising their reservation.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Delayed Staff Deployment: OSPR LOGS staff not deployed to ICP soon enough causing a backlog in providing services and resources for the response. As a result of the recommendation from the Refugio response, OSPR management decided to assess the situation on-scene to determine LOGS and Finance staffing needs for the response. This proved to be very helpful and will become standard practice for all large incidents in the future.

2) Late Deployment of OSPR Mobile Command Trailer: Limited drivers. Since the last major response, OSPR has added two additional Class A drivers for a total of four. Plans to deploy the OSPR Mobile Command Trailer were discussed early in the response. As a result, drivers were placed on standby and prepared to deploy the trailer if needed.

3) Emergency Procurement Restrictions: Standard purchasing rules applied creating delayed completion of requisitions critical to the response. After Refugio, OSPR management met with CDFW BMB, CDFW Accounting Services Branch, and Department of General Services to discuss emergency procurement response needs. As a result, new protocols were established and have been used in other incidents such as wildfires and the Wildlife Waystation response. In the P00547 Incident, one of the new protocols used was BMB notification of P-Card and Citibank Meeting Planner card in the event that spending increases were needed.

4) Communication Upgrade: Loaner phones were flip phones, not smart phones. Since the last major response, OSPR has issued smart phones to responders.

Successes and Best Practices

- Included in initial virtual OSPR Operations Center briefings where OSPR LOGS received RP LOGS point of contact.
- Early deployment and coordination with Finance.
- Early notification of responder needs allowed for lodging room blocks to be secured close to both ICPs.
- Incident requisition process worked well and made it easy to timely procure resources.
- Utilize and fine tune internal response templates.

Challenges and Recommendations

Logs 1: Due to personnel turnover, there are only two staff trained to perform LSC duties. Additionally, the bench for trained LOGS support staff has decreased. Currently, there are two partially trained support staff. To meet staffing needs for large, extended incidents, OSPR should train at least four more support staff for a total of six, as well as two more staff at the LSC level for a total of four.

Logs 2: Initial coordination with the RP LSC was challenging as OSPR staff was working remotely. Coordination improved once on scene. OSPR should initiate in-person coordination with RP LOGS staff as soon as possible since efficient remote collaboration may not be established during the initial response.

Finance/Administration

Objectives and Responsibilities

The Finance/Administration Section is responsible for all financial, administrative, and cost analysis aspects of the incident, such as establishing and maintaining finance requirements (funding sources, documentation requirements, budgets, cost ceilings, cost estimates, and local agency assistance); serving as State Contracting Officer; and preparing and maintaining cumulative incident cost records to ensure cost recovery mandates are met.

For the P00547 Incident, OSPR staff served as the State Finance Section Chief (FSC), working closely with the RP, USCG, and AREPs.

Incident Activities

Key activities for this response included consultation with the RP to establish a cost estimate tracking and submission process; captured all OSPR staff resource requisitions; executed response agreement for seafood sampling services; advised local government and elected officials on cost reimbursement process; briefed SOSC and OSPR Executive staff daily on costs and on-scene staffing; worked on general finance issues with various response staff; and communicated with the RP to address COVID-19 concerns.

IDENTIFY RP AND VALID COFR, DETERMINE FUNDING SOURCE

OSPR Finance was responsible for opening spills codes for response, investigation and NRDA. Once the RP was identified, OSPR Finance verified the RP had a valid COFR.

ESTABLISH COSTS ESTIMATE TRACKING AND SUBMISSION PROCESS

OSPR Finance communicated with the RP FSC on day one, made introductions and provided/received contact information, inquired how costs would be tracked, and provided a rate sheet of OSPR personnel, equipment, mileage and per diem. Additionally, OSPR Finance tracked estimated costs which included personnel hours, per diem, airfare, travel, rental cars, lodging, vessels, aircraft, and other OSPR assets used to respond and submitted costs daily to RP FSC.

Advised Local Government, Elected Officials, and other State Agencies on Cost Reimbursement

OSPR Finance participated in regularly scheduled Microsoft Teams meetings facilitated by the LOFR to clarify response versus claims reimbursement, drafted response costs reimbursement and claims fact sheets, and responded to emails and phone calls from the above stakeholders.

RESPONSE AGREEMENTS

One urgency response agreement was executed with Industrial Economics Incorporated (IEc) to perform seafood sampling required for fisheries re-opening. Local commercial fishing captains acted as subcontractors to IEc providing vessel transportation for all on-water sampling.

MISC. FINANCE AND ADMINISTRATIVE ISSUES

OSPR Finance worked with the CDFW travel coordinator to assist staff with Concur access and/or updating supervisor approval. In the original ICP, OSPR Finance met with the Deputy LSC and Support Branch Director to address concerns over food service protocols and availability of disinfectant resources to comply with COVID policies. OSPR Finance also conferred with SOSC, OSPR Deputy Administrator, and State LSC to procure and distribute rapid COVID tests for demobilized OSPR staff traveling home.

Recommendations from the Refugio Oil Spill Addressed in this Response

The Refugio AAR did not identify any specific recommendations related to the Finance Section. However, OSPR continues to train additional staff to serve within the Finance Section and evaluate current processes to improve efficiency.

Successes and Best Practices

- Remote staff support allowed on-scene staff to address real time issues in the field.
- Developed response cost reimbursement and third-party claims facts sheets.
- Participated in LOFR Local Agency and Elected Officials briefings to address questions.
- Early deployment and coordination with LOGS.
- Created a template to identify and manage the daily number of staff responding both onscene and remotely.

Challenges and Recommendations

FINANCE 1: Currently, there are only two staff trained to perform the FSC role (including the Financial Services manager). It is difficult being a supervisor over administrative functions and responding to oil spills, as it often conflicts with hard deadlines. OSPR should train more staff to serve within the Finance Section to ensure continuity of regular OSPR finance and administration responsibilities during large responses.

FINANCE 2: The initial claims process developed by the RP was vague; it only included a phone number. OSPR Finance suggested to the RP FSC to include the claims information on the response website and other advertisements, but they were slow to make adjustments. OSPR should continue to advise and encourage the RP to provide detailed information about the claims process and distribute fact sheets early in the response.

FINANCE 3: It has been a significant amount of time since OSPR rates were revised, they are considerably lower than our response counterpart (USCG), resulting in a loss of revenue. Also, CDFW equipment (with no established rates) was used on the response. Outdated OSPR rates were used if relevant, but otherwise went uncharged. OSPR should update rate sheets for personnel, equipment, and mileage and establish the same for relevant CDFW equipment.

Petroleum Chemistry Laboratory

Objectives and Responsibilities

The primary responsibility of the Petroleum Chemistry Laboratory (PCL) is to provide the necessary link between the spilled material and the RP through chemical analysis. In a significant oil spill incident, the PCL primarily supports the response. The PCL has three permanent staff (1 Environmental Scientist, 2 Staff Chemists) supervised by one Senior Environmental Scientist who also oversees other essential laboratory functions.

Incident Activities

SAMPLE ANALYSIS AND REPORTING

- Analyzed environmental samples with comparison to source sample and seep or other potential sources. Ninety-one fingerprint analyses were completed for the P00547 Incident response.
- Preliminary then final reporting of fingerprinting results to SOSC.

UC BRIEFINGS AND CONSULTATIONS

• Consultation to UC for results of analysis and technical information sharing.

SAMPLE COORDINATOR (TASKS SHOULD NORMALLY BE CONDUCTED BY NON-PCL STAFF)

- Sample transportation coordination.
- Sampling plan preparation assistance and reviews.
- Coordination with EU Lead and SOSC to determine sample prioritization for analysis.
- Coordination with GIS to produce maps to illustrate the fingerprinting results for UC.
- Tracked all response samples and status.
- Distribution of sampling supplies.

PUBLIC HEALTH ASSESSMENT UNIT PARTICIPATION

- Attended regular meetings in the PHAU with the US EPA and several local agencies.
- Coordinated with the Unit for collection of a source sample. This was necessary since the initial source sample was held as investigative evidence.

FISHERIES CLOSURE DATA REVIEW

- Provided quality control/quality assurance data review for analytical reports generated by the contract laboratory.
- Provided consultation to fisheries closure staff on analytical methodology used by the contract laboratory.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) In large spill responses, separate Sample Coordinators (SC) for NRDA, Response, and Investigation sampling efforts should be considered. SC functions have been separated. This appeared to work well for Fisheries Closure, NRDA, and Investigations during the P00547 Incident which each had an SC. However, there was not an SC deployed for the response function in the P00547 Incident. This created additional workloads not only for PCL, but also for EU and SOSC.

2) Revise Sampling Coordinator Job Aid to include evaluating/sampling natural seep. The PCL sampling manual was modified to include seep sampling where appropriate. The PCL was able to compare to central coast seep data, but no actual seep samples were available near the P00547 Incident area.

Successes and Best Practices

- Provided timely chemical fingerprint comparisons of environmental and source oil samples that supported cleanup planning and decisions.
- Conduct routine Teams meetings between PCL supervisor/lead and SC so PCL can be kept advised of anticipated requests for analysis and provide turn-around times to reporting.

Challenges and Recommendations

PCL 1: OSPR has developed and implemented an internal SC training program, but at the time of the incident, only one staff was qualified to assume the response SC role for a spill of this size. That staff was not available for the response SC role due to other response priorities, resulting in additional workloads for other response functions. OSPR should evaluate the need for multiple SC staff for a spill the size of the P00547 Incident and increase the numbers of in-house SCs currently trained and qualified to meet this need. Staff should include SC personnel who are not conducting sample analysis and reporting (non-PCL staff) and should also consider the need for a permanent assignment.

PCL 2: PCL was not able to access all of the samples collected and stored by the investigation team due to evidence storage requirements. OSPR should split or share ephemeral environmental samples between response and investigation as they are collected, with response samples expedited to PCL.

Natural Resource Damage Assessment

Objectives and Responsibilities

The Natural Resource Damage Assessment (NRDA) is a separate, parallel effort to the spill response and cleanup. The goal of the NRDA is to examine the natural resource injuries from oil spills or other pollution events, to quantify the injuries, and to ultimately both restore the injured resources and compensate the public for the lost interim ecological benefits and uses of those resources. Typically, the assessment and quantification of natural resource injuries, as well as restoration planning, occurs immediately after a spill event and continues long after the spill response effort has ended. While NRDA activities generally do not occur within the structure, processes, and control of the response UC, for purposes of health and safety, as well as coordinating the deployment of NRDA field teams with spill response personnel, communication and coordinated with the spill UC through an NRDA Representative Ref. USCG *Incident Management Handbook*, 2014).

This initial NRDA response to this incident included staff from several state and federal agencies, including OSPR, Department of Parks and Recreation, California State Lands Commission, California Coastal Commission, National Oceanic and Atmospheric Administration, US Fish and Wildlife Service, Bureau of Land Management, and National Parks Service. In addition, the NRDA effort was supported by of host of contractors that assisted in collecting time critical (or "ephemeral") field data and performing various surveys to assist in assessing resource injuries from the spill.

Since the NRDA is a legal process that is still not complete, this AAR only focuses on outcomes since the Refugio AAR and coordination between the UC and NRDA efforts.

Incident Activities

EPHEMERAL DATA COLLECTION

Beginning October 2, 2021, the natural resource trustees met via conference calls and virtual online meetings to initiate ephemeral data collection following the spill. Ephemeral data includes post-spill chemical, physical, and biological information that changes rapidly over time and may be lost if not collected immediately (e.g., within days or weeks).

FORMATION OF TECHNICAL WORKING GROUPS (TWGs)

Based on potential impacts to natural resources from the spill, the following TWGs were established during the first week of the spill:

- Birds
- Marine Mammals
- Fish and Water Column Organisms
- Marsh Habitat
- Sandy Beach Habitat
- Rocky Intertidal Habitat

• Subtidal Habitat.

COORDINATION OF NRDA ACTIVITIES WITH UNIFIED COMMAND

NRDA field activities and information requests were coordinated with the UC via ICS Form 213 General Messages to the LOFR during the spill.

Recommendations from the Refugio Oil Spill Addressed in this Response

1) Develop outreach to universities regarding study of oil spill impacts on the

environment. OSPR has maintained an active relationship with academic researchers within the Multi-Agency Rocky Intertidal Network (MARINe). Most recently, OSPR presented virtually at the MARINe annual meeting in April 2021. OSPR discussed roles MARINe members may play during oil spills. Following the P00547 Incident, MARINe members were contacted within 48 hours of the spill and biological surveys initiated shortly thereafter.

2) Develop outreach and pre-identification of contractors that can provide trained staff for NRDA-related water, sediment, and tissue sampling support, sample intake, sample transport, and sample storage support during spills. In 2018, OSPR retained Industrial Economics (IEc) as a standing contractor to provide NRDA-related water, sediment, and tissue sampling support, sample intake, sample transport, and sample storage support during spills. In 2018, OSPR retained tissue sampling support, sample intake, sample transport, and sample storage support during spills. IEc's services were requested shortly after the P00547 Incident.

3) Include NRDA staff in spill response drills and exercises, including university

representatives. Since Refugio, OSPR has included an NRDA component to the following drills and exercises:

- Polar Tankers Exercise (August 25, 2016)
- NPREP Chevron Shipping Oceanside Exercise (May 10-11, 2017)
- NPREP Chevron El Segundo Drill (May 2-3, 2018)
- Beta Offshore/Amplify Energy Tabletop Exercise (December 11, 2018)
- BP Shipping/ AK Tankers Co. CalTriVEX Tabletop Exercise (June 18-20, 2019).

4) Develop protocols for improving documentation of spill-related wildlife mortality not currently captured by the Wildlife Branch. OSPR finalized their "Shoreline Fish and Invertebrate Mortality Survey Protocol" in August 2019. The protocol was used during the P00547 Incident.

Successes and Best Practices

- For the first time during a California large spill NRDA, OSPR staffed a full-time "Ephemeral Data Coordinator" position during the initial spill response. This position provided valuable support to the NRDA effort by helping coordinate activities with the UC and directing daily NRDA field activities.
- ICS Form 213 General Messages were used by NRDA representatives to effectively communicate locations and names of NRDA staff in the field for safety and situational awareness.
- The spill LOFR was helpful and supportive to the NRDA effort and facilitated NRDA information requests from the UC.

- LOFR daily briefings were very helpful to the NRDA effort and provided a needed situational awareness.
- OSPR's standing contract with IEc and former relationships with other specialized NRDA contractors provided needed assets (personnel, supplies, equipment) to conduct NRDA field activities in an efficient and timely manner.

Challenges and Recommendations

NRDA 1: A Response-NRDA Data Sharing Agreement was developed to facilitate communication between the UC and NRDA and, while successful in general, it inadvertently created delays in NRDA's acquisition of spill-related information. For future spills, OSPR should develop a template Response-NRDA data sharing agreement to include a streamlined process through which NRDA can receive critical information directly from Planning and Operations Sections.

NRDA 2: The responsibility for collection of fish and invertebrate mortality information was initially unclear between NRDA and Wildlife Branch. OSPR should create a job aid to clarify roles and responsibilities of the two groups.

NRDA 3: The spill generated interest among the Ocean Protection Council and affiliated academic institutions as to how their scientific expertise could be used in assessing resource impacts. OSPR should hold a NRDA Science Workshop or other scientific outreach event to explain the NRDA process, and discuss how science informs the process, and how academic researchers can become involved in helping the natural resource trustees assess injuries and develop restoration projects that compensate for the harm caused by oil spills.

Appendix - Maps

- Leak Location Map
- Incident Overview Map



